This Base Manual covers Integrated Side-by-Side Refrigerators
Refer to individual Technical Sheet for information on specific models.

Service

Integrated Side-by-Side Refrigerators

Service Manual for Jenn-Air® models

This manual is to be used by qualified appliance technicians only. Maytag does not assume any responsibility for property damage or personal injury for improper service procedures done by an unqualified person.

MAYTAG®

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July 2002

Important Information

Pride and workmanship go into every product to provide our customers with quality products. It is possible, however, that during its lifetime a product may require service. Products should be serviced only by a qualified service technician who is familiar with the safety procedures required in the repair and who is equipped with the proper tools, parts, testing instruments and the appropriate service manual. **REVIEW ALL SERVICE INFORMATION IN THE APPROPRIATE SERVICE MANUAL BEFORE BEGINNING REPAIRS.**

Important Notices for Consumers and Servicers

⚠ WARNING

To avoid risk of serious injury or death, repairs should not be attempted by unauthorized personnel, dangerous conditions (such as exposure to electrical shock) may result.

⚠ CAUTION

Maytag will not be responsible for any injury or property damage from improper service procedures. If performing service on your own product, assume responsibility for any personal injury or property damage which may result.

To locate an authorized servicer, please consult your telephone book or the dealer from whom you purchased this product. For further assistance, please contact:

MAYTAG APPLIANCES SALES COMPANY
ATTN:Jenn-Air CAIR® Center
P.O. Box 2370
Cleveland, TN 37320-2370

OR
CALL

U.S. and Canada 1-800-Jenn-Air
U.S. customers using TTY for deaf, hearing impaired, call 1-800-688-2080

If outside the United States contact:

MAYTAG APPLIANCES SALES COMPANY
ATTN: Jenn-Air CAIR® Center
P.O. Box 2370
Cleveland, TN 37320-2370
Telephone: 1-800-Jenn-Air (1-800-536-6247)

Recognize Safety Symbols, Words, and Labels

⚠ DANGER

DANGER—Immediate hazards which **WILL** result in severe personal injury or death.

⚠ WARNING

WARNING—Hazards or unsafe practices which **COULD** result in severe personal injury or death.

⚠ CAUTION

CAUTION—Hazards or unsafe practices which **COULD** result in minor personal injury or product or property damage.

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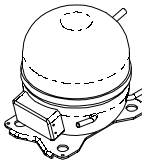
Component Testing

⚠ WARNING

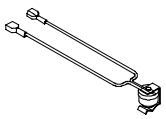
To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

Component	Description	Test Procedures
Variable Capacity Compressor 	When compressor electrical circuit is energized the DC powered compressor is started at high speed or 4500 RPM down to 1600 RPM. For low speed from the compressor PCB board.	**Resistance test** 1. Disconnect power to unit. 2. Remove leads from compressor terminals. 3. Set ohmmeter to lowest scale. 4. Check for resistance between any two terminals. Resistance should be equal between any two terminals. 5. If either compressor winding reads open (infinite or very high resistance) or dead short (0 ohms), replace compressor. **Ground test** 1. Disconnect power to refrigerator. 2. Remove compressor leads and use an ohmmeter set on highest scale. 3. Touch one lead to compressor body (clean point of contact) and other probe to each compressor terminal. • If reading is obtained, compressor is grounded and must be replaced. **Operation test** If voltage and motor winding tests do not show cause for failure, perform the following test: 1. Activate the Diagnostic test mode (See Diagnostic test mode section) 2. Activate Test mode #16 (which is High Speed for compressor) 3. Check the A/C voltage between pins 1 and 2 of JP10 (Voltage should be approximately 2.3VAC) 4. Verify that line voltage is available to Compressor PCB at CNO1 between pins 2 and 5 If AC voltage is there. 5. Check voltage at CNO5 at pins 1 and 6 voltage should read approximately 230VAC 6. Check Voltage at CNO5 at pins 1 and 3 voltage should read approximately 230VAC 7. Check Voltage at CNO5 at pins 3 and 6 voltage should read approximately 230VAC 8. The readings at all three above readings should be the same if not bad PCB board 9. If voltage is the same suspect a failed compressor.

Component Testing

⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

Component	Description	Test Procedures
Condenser	Condenser is a tube and fin construction located in machine compartment. Condenser is on high-pressure discharge side of compressor. Condenser function is to transfer heat absorbed by refrigerant to ambient. Higher-pressure gas is routed to condenser where, as gas temperature is reduced, gas condenses into a high-pressure liquid state. Heat transfer takes place because discharged gas is at a higher temperature than air that is passing over condenser. It is very important that adequate airflow over condenser is maintained. Condenser is air cooled by condenser fan motor. If efficiency of heat transfer from condenser to surrounding air is impaired, condensing temperature becomes higher. High liquid temperature means liquid will not remove as much heat during boiling in evaporator as under normal conditions. This would be indicated by high than normal head pressures, long run time, and high wattage. Remove any lint or other accumulation that would restrict normal air movement through condenser. From condenser the refrigerant flows into a post condenser loop which helps control exterior condensation on flange, center mullion, and around freezer door. Refrigerant the flows through the drier to evaporator and into compressor through suction line.	Leaks in condenser can usually be detected by using an electronic leak detector or soap solution. Look for signs of compressor oil when checking for leaks. A certain amount of compressor oil is circulated with refrigerant. Leaks in post condenser loop are rare because loop is a one-piece copper tube. For minute leaks 1. Separate condenser from rest of refrigeration system and pressurize condenser up to a maximum of 235 PSI with a refrigerant and dry nitrogen combination. 2. Recheck for leaks. **⚠ WARNING** To avoid severe personal injury or death from sudden eruption of high pressures gases, observe the following: Protect against a sudden eruption if high pressures are required for leak checking. Do not use high-pressure compressed gases in refrigeration systems without a reliable pressure regulator and pressure relief valve in the lines.
Refrigerator light switch 	Single pole, single throw switch completes circuit for light when door is open.	Check resistant across terminals. Switch arm depressed "NO" terminals Open Switch arm up "NO" terminals Closed
Thermostat 	Thermostat is in a series circuit with terminal 2 of defrost timer, and defrost heater. Circuit is complete if evaporator fan motor operates when cold. Controls the circuit from freezer thermostat through defrost terminator to defrost heater. Opens and breaks circuit when thermostat senses preset high temperature.	Test continuity across terminals. With power off and evaporator coil below freezing, thermostat should show continuity when checked with ohmmeter. See "Heater, evaporator (defrost)" section for additional tests. After defrost thermostat opens, thermostat remains open until end of defrost cycle and refrigerator starts cooling again. Defrost thermostat senses a preset low temperature and resets (closes).

Component Testing

⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

Drier 	Drier is placed at post condenser loop outlet and passes liquefied refrigerant to capillary. Desiccant (20) 8 x 12 4AXH - 7 M>S> - Grams	**Drier must be changed every time the system is opened for testing or compressor replacement.** **NOTE:** Drier used in R12 sealed system is not interchangeable with drier used in R134a sealed system. Always replace drier in R134a system. Before opening refrigeration system, recover HFC134a refrigerant for safe disposal. 1. Cut drier out of system using the following procedure. Do not unbraze drier. 2. Applying heat to remove drier will drive moisture into the system. 3. Score capillary tube close to drier and break. 4. Reform inlet tube to drier allowing enough space for large tube cutter. 5. Cut circumference of drier 1 ¼" below condenser inlet tube joint to drier. 6. Remove drier. 7. Apply heat trap paste on post condenser tubes to protect grommets from high heat. 8. Unbraze remaining part of drier. Remove drier from system. 9. Discard drier in safe place. Do not leave drier with customer. If refrigerator is under warranty, old drier must accompany warranty claim. **⚠ WARNING** To avoid death or severe personal injury, cut drier at correct location. Cutting drier at incorrect location will allow desiccant beads to scatter. If spilled, completely clean area of beads.
Evaporator	Inner volume of evaporator allows liquid refrigerant discharged from capillary to expand into refrigerant gas. Expansion cools evaporator tube and fin temperature to approximately -20°F transferring heat from freezer section to refrigerant. Passing through suction line to compressor, the refrigerant picks up superheat (a relationship between pressure and temperature that assures complete vaporization of liquid refrigerant) as the result of capillary tube soldered to suction line. Refrigerant gas is pulled through suction line by compressor, completing refrigeration cycle.	Test for leaks in evaporator with electronic leak detector or with soap solution. Compressor oil is circulated with refrigerant; check for oil when checking for leaks. For minute leaks 1. Separate evaporator from rest of refrigeration system and pressurize evaporator up to a maximum of 140 PSI with a refrigerant and dry nitrogen combination. 2. Recheck for leaks. **⚠ WARNING** To avoid severe personal injury or death from sudden erruption of high pressurres gases, observe the following: • Protect against a sudden eruption if high pressures are required for leak checking. • Do not use high pressure compressed gases in refrigeration systems without a reliable pressure regulator and pressure relief valve in the lines.
Evaporator defrost heater	Activated when Main control board activates defrost mode or when forced in Diagnostic mode.	Check resistance across heaters. If resistance heater is open and should be replaced. In diagnostic mode test # 11 Energize heater (the defrost system should draw about 3 amps).

Service Procedures

⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a 10,000 ohm resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

Service Equipment

Listed below is equipment needed for proper servicing of HFC134a systems. Verify equipment is confirmed by manufacturer as being compatible with HFC134a and ester oil system.

Equipment must be exclusively used for HFC134a. Exclusive use of equipment only applies to italic items.

- **Evacuation pump**
  Check with vacuum pump supplier to verify equipment is compatible for HFC134a. Robinair, Model 15600 2 stage, 6 cubic feet per minute pump is recommended.
- ***Four-way manifold gauge set, with low loss hoses***
- **Leak detector**
- ***Charging cylinder***
- ***Line piercing saddle valve***
  (Schroeder valves). Seals must be HFC134a and ester oil compatible. Line piercing valves may be used for diagnosis but are not suitable for evacuation or charging, due to minute holes pierced in tubing. Do not leave mechanical access valves on system. Valves eventually will leak. Molecules of HFC134a are smaller than other refrigerants and will leak where other refrigerants would not.
- ***Swagging tools***
- ***Flaring tools***
- ***Tubing cutter***
- **Flux**
- **Sil-Fos**
- **Silver solder**
- ***Oil for swagging and flaring***
  Use only part # R0157532
- ***Copper tubing***
  Use only part # R0174075 and # R0174076
- **Dry nitrogen**
  99.5% minimum purity, with -40°F or lower dew point
- **Crimp tool**
- **Tube bender**
- **Micron vacuum gauge**
- ***Process tube adaptor kit***
- **Heat trap paste**
- ***ICI appliance grade HFC134a***

Drier Replacement

Before opening refrigeration system, recover HFC134a refrigerant for safe disposal.

Every time sealed HFC134a system is repaired, drier filter must be replaced.

Cut drier out of system by completing the following steps. Do not unbraze drier filter. Applying heat to remove drier will drive moisture into system.

1. Score capillary tube close to drier and break.
2. Reform inlet tube to drier allowing enough space for large tube cutter.
3. Cut circumference of drier at 1-1/4", below condenser inlet tube joint to drier.
4. Remove drier.
5. Apply heat trap paste on post condenser tubes to protect grommets from high heat.
6. Unbraze remaining part of drier. Remove drier from system.
7. Discard drier in safe place. Do not leave drier with customer. If refrigerator is under warranty, old drier must accompany warranty claim.

Refrigerant Precautions

⚠ WARNING

To avoid risk of personal injury, do not allow refrigerant to contact eyes or skin.

⚠ CAUTION

To avoid risk of property damage, do not use refrigerant other than that shown on unit serial number identification plate.

NOTE: All precautionary measures recommended by refrigerant manufacturers and suppliers apply and should be observed.

Line Piercing Valves

Line piercing valves can be used for diagnosis, but are not suitable for evacuating or charging due to holes pierced in tubing by valves.

NOTE: Do not leave line piercing valves on system. Connection between valve and tubing is not hermetically sealed. Leaks will occur.

Service Procedures

⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a 10,000 ohm resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

Open Lines

During any processing of refrigeration system, never leave lines open to atmosphere. Open lines allow water vapor to enter system, making proper evacuation more difficult.

Dehydrating Sealed Refrigeration System

Moisture in a refrigerator sealed system exposed to heat generated by the compressor and motor reacts chemically with refrigerant and oil in the system and forms corrosive hydrochloric and hydrofluoric acids. These acids contribute to breakdown of motor winding insulation and corrosion of compressor working parts, causing compressor failure.

In addition, sludge, a residue of the chemical reaction, coats all surfaces of sealed system, and will eventually restrict refrigerant flow through capillary tube.

To dehydrate sealed system, evacuate system (see paragraph *Evacuation*).

Leak Testing

⚠ DANGER

To avoid risk of serious injury or death from violent explosions, NEVER use oxygen or acetylene for pressure testing or clean out of refrigeration systems. Free oxygen will explode on contact with oil. Acetylene will explode spontaneously when put under pressure.

It is important to check sealed system for refrigerant leaks. Undetected leaks can lead to repeated service calls and eventually result in system contamination, restrictions, and premature compressor failure.

Refrigerant leaks are best detected with halide or electronic leak detectors.

Testing Systems Containing a Refrigerant Charge

1. Stop unit operation (turn refrigerator off).
2. Holding leak detector exploring tube as close to system tubing as possible, check all piping, joints, and fittings.

NOTE: Use soap suds on areas leak detector cannot reach or reliably test.

Testing Systems Containing No Refrigerant Charge

1. Connect cylinder of nitrogen, through gauge manifold, to process tube of compressor and liquid line strainer.
2. Open valves on nitrogen cylinder and gauge manifold. Allow pressure to build within sealed system.
3. Check for leaks using soap suds.

If a leak is detected in a joint, do not to attempt to repair by applying additional brazing material. Joint must be disassembled, cleaned and rebrazed. Capture refrigerant charge (if system is charged), unbraze joint, clean allparts, then rebraze.

If leak is detected in tubing, replace tubing. If leak is detected in either coil, replace faulty coil.

Restrictions

Symptoms

Restrictions in sealed system most often occur at capillary tube or filter drier, but can exist anywhere on liquid side of system.

Restrictions reduce refrigerant flow rate and heat removal rate. Wattage drops because compressor is not circulating normal amount of refrigerants.

Common causes of total restrictions are moisture, poorly soldered joints, or solid contaminants. Moisture freezes at evaporator inlet end of capillary tube. Solid contaminants collect in filter drier.

If restriction is on low side, suction pressure will be in a vacuum and head pressure will be near normal.

If restriction is on high side, suction pressure will be in a vacuum and head pressure will be higher than normal during pump out cycle.

Refrigeration occurs on low pressure side of partial restriction. There will be a temperature difference at the point of restriction. Frost and/or condensation will be present in most case at the point of restriction. Also, system requires longer to equalize.

Slight or partial restriction can give the same symptoms as refrigerant shortage including lower than normal back pressure, head pressure, wattage, and warmer temperatures.

Total restriction on the discharge side of compressor, when restriction is between compressor and first half of condenser, results in higher than normal head pressure and wattage while low side is being pumped out.

Service Procedures

⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a 10,000 ohm resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

Testing for Restrictions

To determine if a restriction exists:

1. Attach gauge and manifold between suction and discharge sides of sealed system.
2. Turn unit on and allow pressure on each side to stabilize. Inspect condenser side of system. Tubing on condenser should be warm and temperature should be equal throughout (no sudden drops at any point along tubing).
   - If temperature of condenser tubing is consistent throughout, go to step 4.
   - If temperature of condenser tubing drops suddenly at any point, tubing is restricted at point of temperature drop (if restriction is severe, frost may form at point of restriction and extend down in direction of refrigerant flow in system). Go to step 5.
3. Visually check system for kinks in refrigeration line which is causing restriction. Correct kink and repeat step 2.
4. Turn unit off and time how long it takes high and low pressure gauges to equalize:
   - If pressure equalization takes longer than 10 minutes, a restriction exists in the capillary tube or drier filter. Go to step 5.
   - If pressure equalization takes less than 10 minutes, system is not restricted. Check for other possible causes of malfunction.
5. Recover refrigerant in sealed system.

NOTE: Before opening any refrigeration system, capture refrigerant in system for safe disposal.

6. Remove power from unit.

⚠ CAUTION

To avoid risk of personal injury or property damage, take necessary precautions against high temperatures required for brazing.

7. Remove and replace restricted device.
8. Evacuate sealed system.
9. Charge system to specification.

NOTE: Do not use captured or recycled refrigerant in Maytag units. Captured or recycled refrigerant voids any Maytag and/or compressor manufacturer's warranty.

NOTE: Charge system with exact amount of refrigerant. Refer to unit nameplate for correct refrigerant charge. Inaccurately charged system will cause future problems.

Evacuation and Charging

⚠ CAUTION

To avoid risk of fire, sealed refrigeration system must be air free. To avoid risk of air contamination, follow evacuation procedures exactly.

NOTE: Before opening any refrigeration system, EPA regulations require refrigerant in system to be captured for safe disposal.

Proper evacuation of sealed refrigeration system is an important service procedure. Usable life and operational efficiency greatly depends upon how completely air, moisture and other non-condensables are evacuated from sealed system.

Air in sealed system causes high condensing temperature and pressure, resulting in increased power requirements and reduced performance.

Moisture in sealed system chemically reacts with refrigerant and oil to form corrosive hydrofluoric and hydrochloric acids. These acids attack motor windings and parts, causing premature breakdown.

Before opening system, evaporator coil must be at ambient temperature to minimize moisture infiltration into system.

Evacuation

To evacuate sealed refrigeration system:

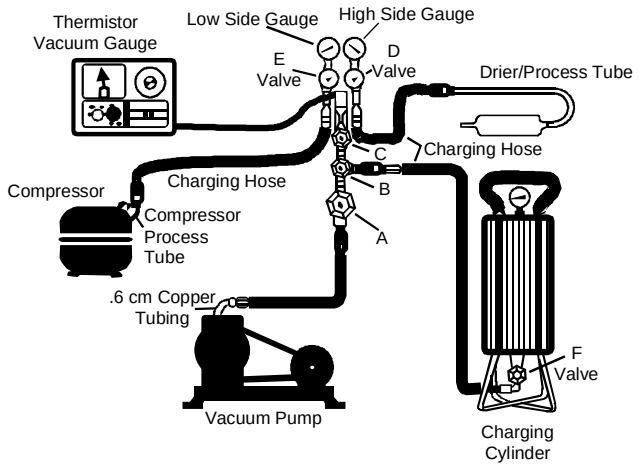
1. Connect vacuum pump, vacuum tight manifold set with high vacuum hoses, thermocouple vacuum gauge and charging cylinder as shown in illustration.

   Evacuation should be done through I.D. opening of tubes not through line piercing valve.
2. Connect low side line to compressor process tube.
3. Connect high side line to drier/process tube.
4. Evacuate both simultaneously. With valve “C” and “F” closed, open all other valves and start vacuum pump.

Service Procedures

WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a 10,000 ohm resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.



Equipment Setup For Evacuation And Charging

5. After compound gauge (low side) drops to approximately 29 inches gauge, open valve “C” to vacuum thermocouple gauge and take micron reading.

NOTE: A high vacuum pump can only produce a good vacuum if oil in pump is not contaminated.

6. Continue evacuating system until vacuum gauge registers 600 microns.
7. At 600 microns, close valve “A” to vacuum pump and allow micron reading in system to balance. Micron level will rise.
   - If in 2 minutes, micron level stabilizes at 1000 microns or below, system is ready to be charged.
   - If micron level rises above 1000 microns and stabilizes, open valve “A” and continue evacuating.
   - If micron reading rises rapidly and does not stabilize, a leak still exists in system.

     Close valve “A” to vacuum pump and valve “C” to vacuum gauge. Invert charging cylinder and open charging cylinder valve “F” to add partial charge for leak checking. With leak detector, check manifold connections and system for leaks. After locating leak, capture refrigerant, repair leak, and begin at step 1.

Charging

NOTE: Do not use captured or recycled refrigerant in Maytag units. Captured or recycled refrigerant voids any warranty.

NOTE: Charge system with exact amount of refrigerant. Refer to unit serial plate for correct refrigerant charge. Inaccurately charged system will cause future problems.

To charge system:

1. Close valves “A” to vacuum pump and “C” to vacuum gauge and “E” to low side manifold gauge.
2. Set scale on dial-a-charge cylinder for corresponding HFC134a pressure reading.
3. Open valve “F” to charging cylinder and let exact amount of refrigerant flow from cylinder into system. Close valve.

   Low side gauge pressure should rise shortly after opening charging cylinder valve as system pressure equalizes through capillary tube.

   If pressure does not equalize, a restriction typically exists at capillary/drier braze joint.
4. If pressure equalizes, open valve “E” to low side manifold gauge and pinch off high side drier process tube.
5. Start compressor and draw remaining refrigerant from charging hoses and manifold into compressor through compressor process tube.
6. To check high side pinch-off drier process tube. Close valve “D” to high side gauge. If high side pressure rises, repeat high side pinch-off and open valve “D”. Repeat until high side pinch-off does not leak.
7. Pinch-off compressor process tube and remove charging hose. Braze stub closed while compressor is operating.
8. Disconnect power. Remove charging hose and braze high side drier process tube closed.
9. Recheck for refrigerant leaks.

Refrigerant Charge

Refrigerant charge in all capillary tube systems is critical and exact amount is required for proper performance. Factory charges are shown on serial plate.

NOTE: Do not use refrigerant other than shown on serial plate.

Service Procedures

⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a 10,000 ohm resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

HFC134a Service Information

HFC134a is alternative refrigerant for CFC12. HFC134a has an ozone depletion potential (ODP) factor of 0.0 and a global warming potential (GWP) factor of 0.27. HFC134a is not flammable and has acceptable toxicity levels. HFC134a is not interchangeable with CFC12. There are significant differences between HFC134a and CFC12 which must be considered when handling and processing refrigeration system.

Health, Safety, and Handling

Health, safety and handling considerations for HFC134A are virtually no different than those for CFC12.

Properties/Characteristics	CFC12	HFC134a
Ozone Depletion Potential (ODP)	1.0*	0.0*
Global Warming Potential (GPW)	3.2*	0.27*
Molecular weight	121	102
Boiling point at 1 atmosphere	-22°F (-30°C)	-15°F (-126°C)
Vapor pressure at 77°F (25°C)	80 psig	82 psig
Liquid density at 77°F (25°C)	82 lb/ft^3	75 lb/ft^3
Flammability	No	No
High-side system operating Pressure at 65°F (18°C)	HFC134a approximately 3 psig higher than CFC12	
Low-side system operating Pressure at 65°F (18°C)	HFC134a approximately 2 psig lower than CFC12	

Health, Safety, and Handling	CFC12	HFC134a
Allowable overall exposure limit	1,000 ppm	Same
Vapor exposure to skin	No effect	Same
Liquid exposure to skin	Can cause frostbite	Same
Vapor exposure to eye	Very slight eye irritant	Same
Liquid exposure to eye	Can cause frostbite	Same
Above minimum exposure limit	Can cause Asphyxiation, Tachycardia, and Cardia Arrhythmias	Same
Safety and handling	Wear appropriate skin and eye protection. Use with adequate ventilation.	Same
Spill management	Remove or extinguish ignition or combustion sources. Evacuate or ventilate area.	Same
Fire explosion hazards	May decompose if contact with flames and heating elements. Container may explode if heated due to resulting pressure rise. Combustion products are toxic.	Same
Disposal procedures	Recycle or reclaim.	Same

Comparison of CFC12 and HFC134a Properties

To minimize contamination, exercise extreme care when servicing HFC134A sealed systems.

- No trace of other refrigerants is allowed in HFC134a systems. Chlorinated molecules in other refrigerants such as CFC12, etc. will lead to capillary tube plugging.
- Ester oil is used in HFC134a systems. Do not use mineral oil. HFC134a and mineral oils cannot be mixed. If mineral oils were used in HFC134a systems, lubricant would not return to compressor and would cause early compressor failure. If significant amount of oil has been lost from compressor, replace oil rather than adding oil.
- Ester oils used in HFC134a systems are so hydroscopic that by the time an inadequate system performance is detected, oil will be saturated with moisture.
- CFC12 has much higher tolerance to system processing materials, such as drawing compounds, rust inhibitors, and cleaning compounds, than HFC134a. Such materials are not soluble in HFC134a systems. If materials were to be washed from system surfaces by ester oils, they could accumulate and eventually plug capillary tube.
- Care must be taken to minimize moisture entering HFC134a system. Do not leave compressor or system open to atmosphere for more than 10 minutes. Excessive moisture in HFC134a system will react with compressor oil and generate acid.
- Compressor must be replaced when performing low side leak repair.
- Drier filter must always be replaced.

Service Procedures

⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a 10,000 ohm resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

Important: Unbrazing drier filter from tubing will drive moisture from desiccant and into system, causing acids to form. Do not unbraze filter drier from tubing. If CFC12 service drier was installed in HFC134A system, drier could overload due to excessive moisture.

- HFC134a compatible copper tubing, part #R0174075 (1/4" O.D. X 18" length) and part #R0174076 (5/16" O.D. X 24" length) must be used when replacing tubing.
- Avoid system contamination by using Towerdraw E610 evaporating oil, part # R0157532, when flaring, swagging, or cutting refrigeration tubing.

Replacement Service Compressor

HFC134a service compressors will be charged with ester oil and pressurized with dry nitrogen. Before replacement compressor is installed, pull out 1 rubber plug. A *pop* from pressure release should be heard. If a *pop* sound is not heard, do not use compressor. Positive pressure in compressor is vital to keep moisture out of ester oil. Do not leave compressor open to atmosphere for more than 10 minutes.

Compressor Testing Procedures

⚠ WARNING

To avoid death or severe personal injury, never use oxygen, air or acetylene for pressure testing or clean out of refrigeration system. Use of oxygen, air, or acetylene may result in violent explosion. Oxygen may explode on contact with oil and acetylene will spontaneously explode when under pressure.

Refer to Technical Data Sheet "Temperature Relationship Chart" for operating watts, test points, and temperature relationship test for unit being tested.

- Temperature testing is accomplished by using 3 lead thermocouple temperature tester in specific locations. Test point T-1 is outlet on evaporator coil and T-2 is inlet. Test point T-3 is suction tube temperature midway between where armaflex ends and suction port of compressor (approximately 12 inches from compressor).
- Thermocouple tips should be attached securely to specified locations.
- Do not test during initial *pull down*. Allow one off cycle or balanced temperature condition to occur before proceeding with testing.
- Refrigerator must operate minimum of 20 minutes after thermocouples are installed.
- Turn control to colder to obtain required on time.
- Wattage reading must be recorded in conjunction with temperature test to confirm proper operation.
- Suction and head pressures are listed on "Temperature and Relationship Chart". Normally these are not required for diagnosis but used for confirmation on systems which have been opened.

Brazing

⚠ CAUTION

To avoid risk of personal injury or property damage, take necessary precautions against high temperatures required for brazing.

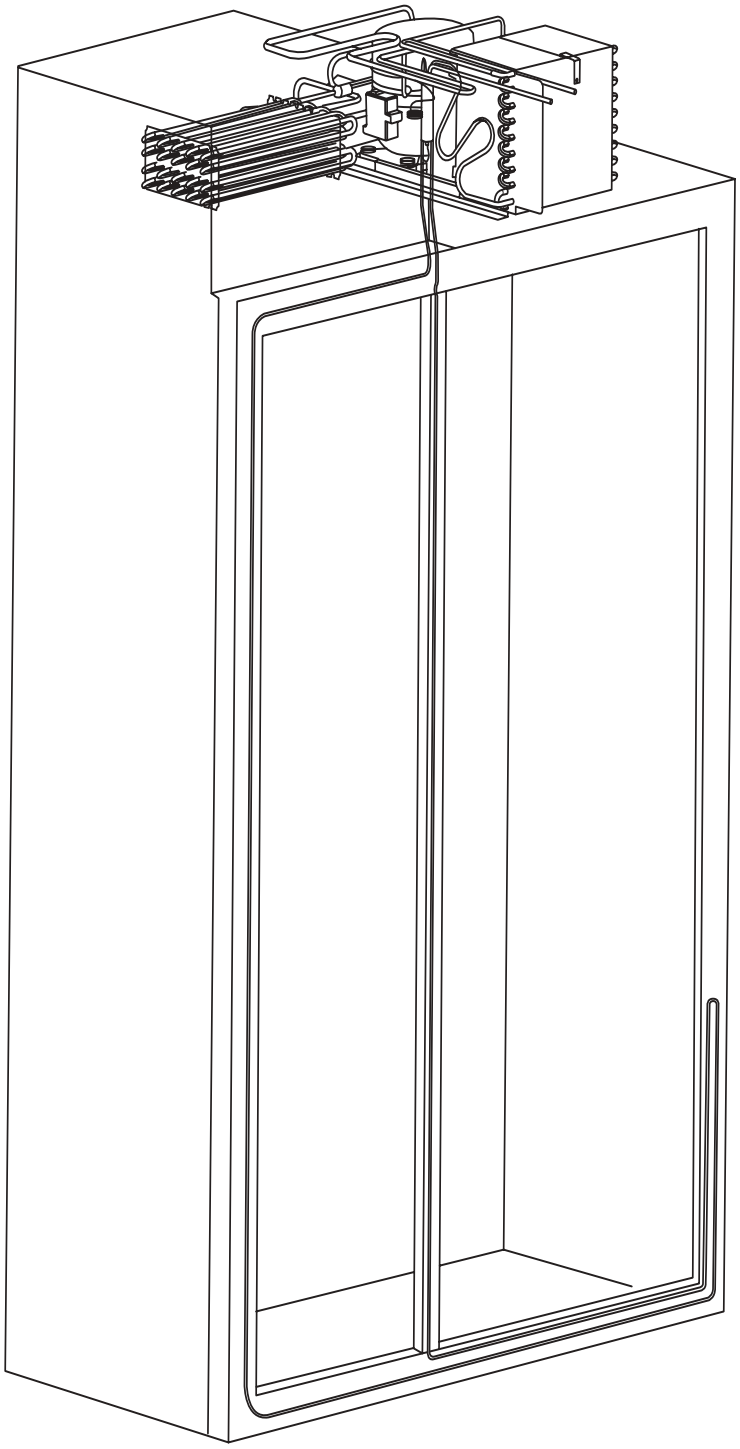
Satisfactory results require cleanliness, experience, and use of proper materials and equipment.

Connections to be brazed must be properly sized, free of rough edges, and clean.

Generally accepted brazing materials are:

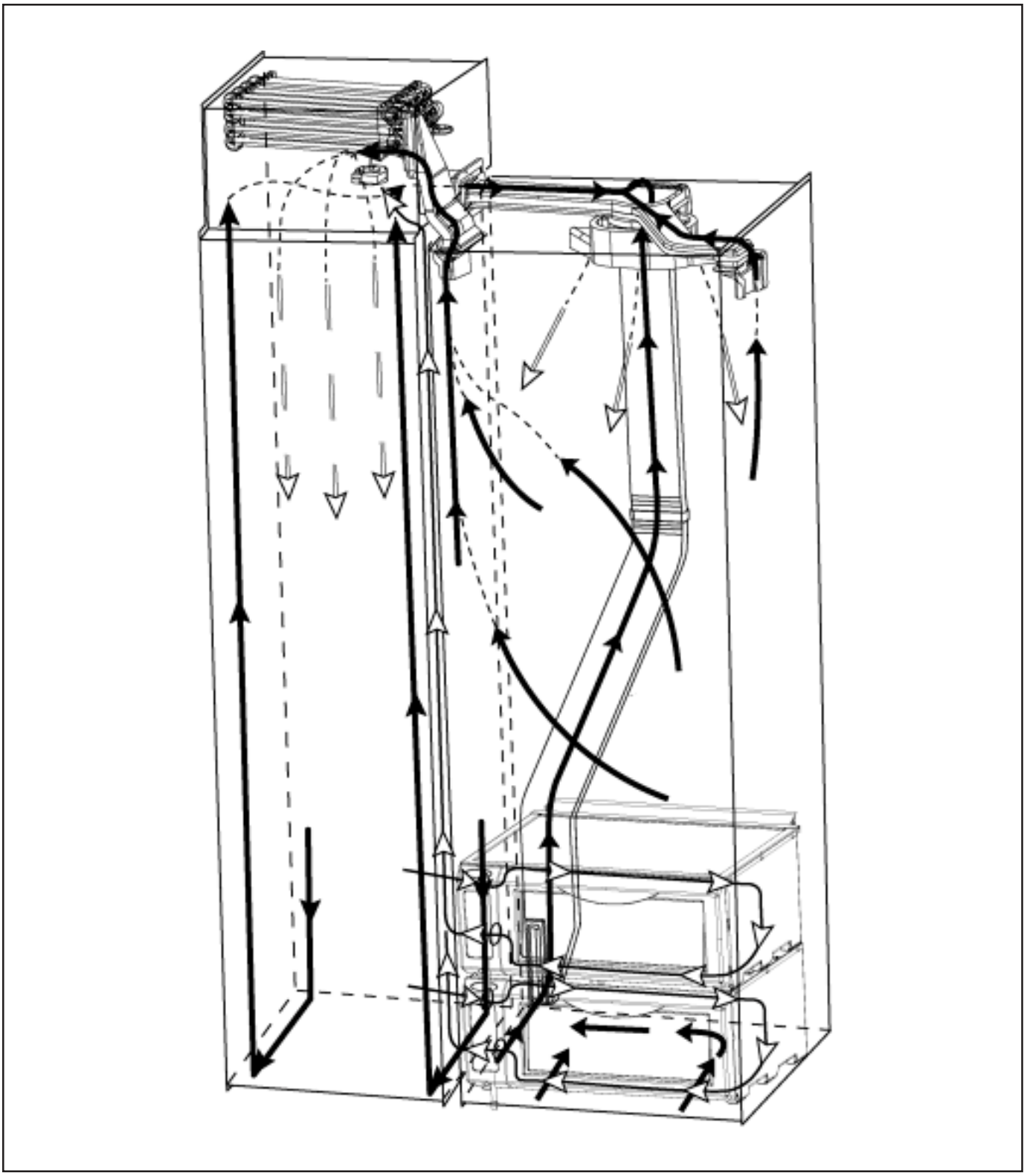
- **Copper to copper joints**: SIL-FOS (alloy of 15 percent silver, 80 percent copper, and 5 percent phosphorous). Use without flux. Recommended brazing temperature is approximately 1400°F. **Do not use for copper to steel connection.**
- **Copper to steel joints**: SILVER SOLDER (alloy of 30 percent silver, 38 percent copper, 32 percent zinc). Use with fluoride based flux. Recommended brazing temperature is approximately 1200°F.
- **Steel to steel joints**: SILVER SOLDER (see copper to steel joints).
- **Brass to copper joints**: SILVER SOLDER (see copper to steel joints).
- **Brass to steel joints**: SILVER SOLDER (see copper to steel joints).

Refrigerant Flow



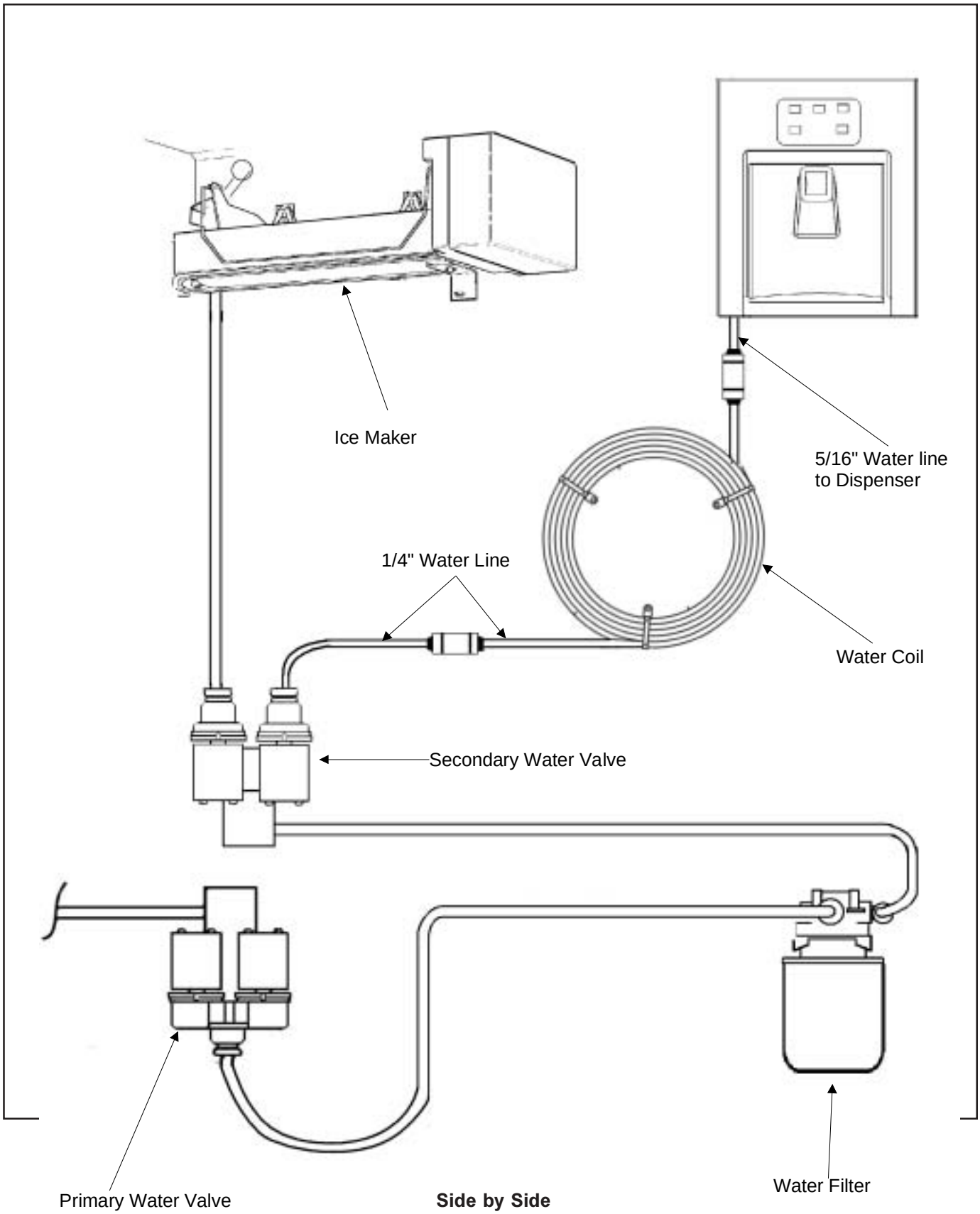
Side by Side
Refrigerant Flow Diagram

Cabinet Air Flow



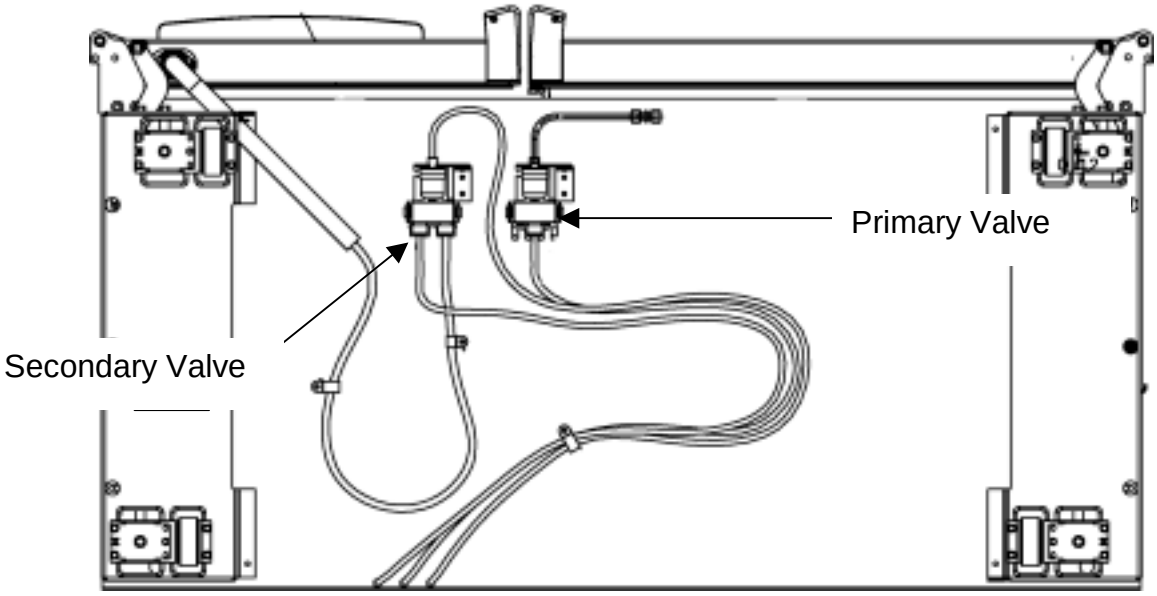
Side by Side
Cabinet Air Flow Diagram

Ice and Water Dispenser Diagram

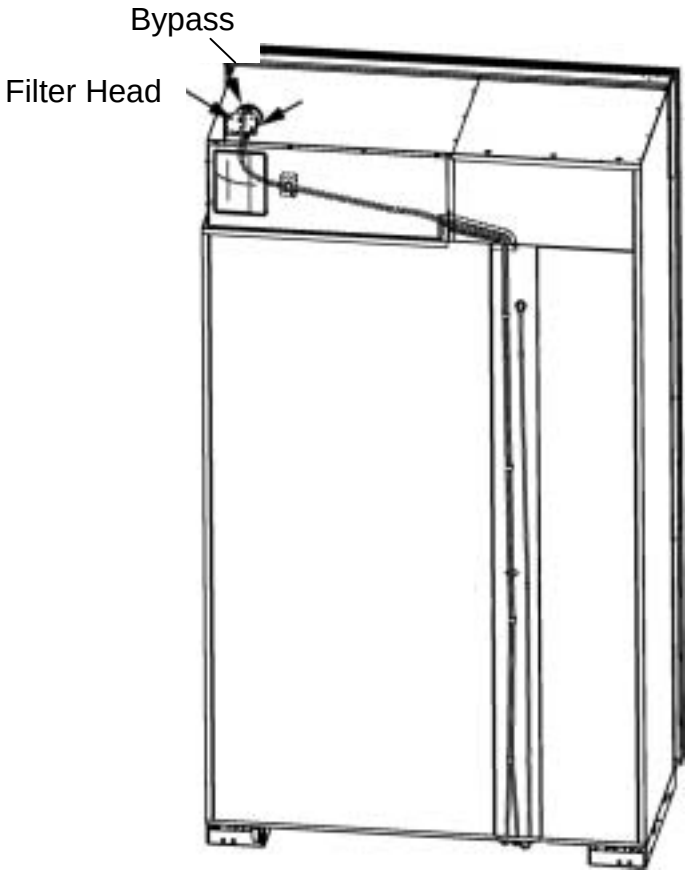


Side by Side
Ice and Water Flow Diagram

Water Valves Diagram



Bottom View



Back View

Troubleshooting Chart

⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

Troubleshooting chart on following pages contains symptoms that may be seen in malfunctioning units. Each symptom is accompanied by one or more possible causes and by a possible remedy or test to determine if components are working properly.

Symptom	Possible Causes	Corrective Action
Unit does not run	No power to unit	Check for power at outlet. Check fuse box/circuit breaker for blown fuse or tripped breaker. Replace or reset.
	Faulty power cord	Check with test light at unit; if no circuit and current is indicated at outlet, replace or repair.
	Low voltage	Check input voltage for proper voltage. Take appropriate action to correct voltage supply problem.
	Faulty compressor	Check compressor motor windings for opens/shorts. Perform compressor diagnostic test Replace if necessary.
Refrigerator section too warm	Excessive door opening	Consumer education
	Overloading of shelves	Consumer education
	Warm or hot foods placed in cabinet	Consumer education
	Cold control set too warm	Set control to colder setting.
	Poor door seal	Level cabinet. Adjust hinges. Replace gasket.
	Refrigerator airflow	Check auto damper is opening by removing grille. With door open, damper should open. Replace if faulty.
	Interior light remains on	Check switch. Replace if necessary.
	Faulty condenser fan or evaporator fan	Check fan and wiring. Replace if necessary.
	Faulty compressor	Replace compressor.

Troubleshooting Chart

⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

Symptom	Possible Causes	Corrective Action
Refrigerator section too cold	Refrigerator temperature control set too cold	Adjust refrigerator temperature control.
	Refrigerator airflow not properly adjusted	Check air flow.
Freezer and refrigerator sections too warm	Temperature controls set too warm	Reset temperature controls.
	Poor door seal	Level cabinet. Adjust hinges. Replace gasket.
	Dirty condenser or obstructed grille	Check condenser and grille. Clean.
	Faulty control	Test control. Replace if failed.
	Refrigerant shortage or restriction	Check for leak or restriction. Repair, evacuate and recharge system.
Freezer section too cold	Freezer temp control set too cold	Adjust freezer temperature control.
	Faulty control	Test control. Replace if failed.
Unit runs continuously	Temperature control set too cold	Adjust temperature control.
	Dirty condenser or obstructed grille	Check condenser and grille. Clean.
	Poor door seal	Level cabinet. Adjust hinges. Replace gasket.
	Interior light remains on	Check switch. Replace if necessary.
	Faulty condenser fan or evaporator fan	Check fan and wiring. Replace if necessary.
	Faulty control	Test control. Replace if failed.
	Refrigerant shortage or restriction	Check for leak or restriction. Repair, evacuate and recharge system.
	Refrigerant overcharge	Check for overcharge. Evacuate and recharge system.
	Air in system	Check for low side leak. Repair, evacuate and recharge system.
Noisy operation	Loose flooring or floor not firm	Repair floor or brace floor.
	Cabinet not level	Level cabinet.
	Tubing in contact with cabinet, other tubing, or other metal	Adjust tubing.
	Drip pan vibrating	Adjust drain pan.
	Fan hitting another part	Ensure fan properly aligned and all attaching hardware and brackets are tight and not worn. Tighten or replace.
	Worn fan motor bearings	Check motor for loss of lubricant or worn bearings. Replace if necessary.
	Compressor mounting grommets worn or missing. Mounting hardware loose or missing	Tighten hardware. Replace grommets if necessary.
	Free or loose parts causing or allowing noise during operation	Inspect unit for parts that may have worked free or loose or missing screws. Repair as required.

Troubleshooting Chart

⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

Symptom	Possible Causes	Corrective Action
Frost or ice on evaporator	Defrost thermostat faulty	Check defrost thermostat. Replace if failed.
	Evaporator fan faulty	Check fan motor. Replace if failed.
	Defrost heater remains open	Check defrost heater continuity. Replace if failed.
	Defrost control faulty	Check control and replace if failed.
	Open wire or connector	Check wiring and connections. Repair as necessary.
	Refrigerant shortage or restriction	Check for leak or restriction. Repair, evacuate and recharge system.
	Supply voltage out of specification	Check input voltage. Correct any supply problems.
	Faulty fan motor	Check fan motor. Replace if failed.
	Restricted air flow	Check condenser and grille for dirt. Clean.
	Refrigerant shortage or restriction	Check for leak or restriction. Repair, evacuate and recharge system.

System Diagnosis

CONDITION	SUCTION PRESSURE VARIATION FROM NORMAL	HEAD PRESSURE VARIATION FROM NORMAL	T1 INLET TEMPERATURE VARIATION FROM NORMAL	T2 OUTLET TEMPERATURE VARIATION FROM NORMAL	T3 SUCTION TEMPERATURE VARIATION FROM NORMAL	WATTAGE VARIATION FROM NORMAL
Refrigerant Overcharge	Increase	Increase	Warmer	Warmer	Colder	Increase
Shortage of Refrigerant	Decrease	Decrease or Increase See Text	Colder	Warmer	Warmer	Decrease
Partial Restriction	Decrease	Decrease or Increase See Text Note 2	Colder	Warmer	Warmer	Decrease
Air in System	Near Normal	Increase	Warmer	Warmer	Warmer	Increase
Low Ambient Installations (High Ambients the Reverse)	Decrease	Decrease	Colder	Warmer	Warmer	Decrease
Additional Heat Load	Increase	Increase	Warmer	Warmer	Warmer	Increase
Inefficient Compressor	Increase	Normal or Decrease	Warmer or Colder	Warmer	Warmer	Decrease

Symptoms of an Overcharge

- Above normal freezer temperatures.
- Longer than normal or continuous run.
- Freezing in refrigerator.
- Higher than normal suction and head pressure.
- Higher than normal wattage.
- Evaporator inlet and outlet temperatures warmer than normal.
- Suction tube temperature below ambient. Always check for separated heat exchanger when suction temperature is colder than ambient.

Various conditons could indicate an overcharge. For example, if the cooling coil is not defrosted at regular intervals, due to a failure of the defrost system, the refrigerant will "flood out" and cause the suction line to frost or sweat. The cause of this problem should be corrected rather than to purge refrigerant from the sytem. Running the freezer section colder than necessary (-2 to -1 F. is considered normal package temperatures) or continuous running of the compressor for a variety of reasons, or the freezer fan motor not running, may give the indication of an overcharge.

Symptoms of Refrigeration Shortage

- Rise in food product temperature in both compartments. (See Note 1 below.)
- Long or continuous run time.
- Look for obvious traces of oil that would occur due to a leak or cracked refrigerant line.
- Lower than normal wattage.
- Compressor will be hot to touch because of the heat generated by the motor windings from long continuous running. It will not be as hot as it would be with a full charge and long run times for some other reason such as a dirty condenser.
- Depending on the amount of the shortage, the condenser will not be hot, but closer to room temperature. The capillary tube will be warmer than normal from a slight shortage.
- If the leak is on the high side of the system, both gauges will show lower than normal readings and will show progressively lower readings as this charge becomes less. The suction pressure guage will probably indicate a vacuum.
- If the leak is on the low side of the system the suction pressure guage will be lower than normal - probably in a vacuum - and the head pressure gauge will be higher than normal. It will probably continue to become higher because air drawn in through the leak is compressed by the compressor and accumulates in

the high side (condenser) of the system.

- Only partial frosting of evaporator instead of even frosting of entire coil.

NOTE 1**:** Usually the first thing that is noticed by the user is a rise in temperature foods. Although temperatures will rise in both the freezer section and the food compartment, the frozen meats and vegetables will not thaw immediately. The customer doesn't associate the problem with the freezer section and will first notice that milk and other food beverages are not cold enough.

Under some circumstances, such as in the case of forced air meatkeeper model with a slight shortage of refrigerant, freezing in the food compartment may be experienced due to the additional running time. With a refrigerant leak, however, it always gets worse and as the refrigerant charge decreases the temperature will continue to rise.

With a shortage of refrigerant the capillary line will not have a full column of liquid. As a result, there is a noticeable hissing sound in the evaporator. This should not be mistaken for the regular refrigerant boiling sounds that would be considered normal.

Symptoms of a Restriction

Always remember refrigeration (cooling) occurs on the low pressure side of a partial restriction (obviously a total restriction will completely stop the circulation of refrigerant and no cooling will take place).

Physically feel the refrigeration lines when a restriction is suspected. The most common place for a restriction is at the drier-filter or at the capillary tube inlet or outlet. If the restriction is not total there will be a temperature difference at the point of restriction, the area on the evaporator side will be cooler. In many cases frost and/or condensation will be present. A longer time is required for the system to equalize.

Any kinked line will cause a restriction so the entire system should be visually checked.

A slight restriction will give the same indications as a refrigerant shortage with lower than normal back pressure, head pressure, and wattage, warmer product temperatures.

NOTE 2: If a total restriction is on the discharge side of the compressor, higher than normal head pressures and wattages would result. This is true only while the low side is being pumped out and if the restriction was between the compressor and the first half of the condenser.

To diagnose for a restriction versus a refrigerant shortage, discharge the system, replace the drier-filter, evacuate and recharge with the specified refrigerant charge. If the unit performs normally three possibilities exist: 1) refrigerant loss, 2) partially restricted drier-filter, and 3) moisture in system.

If the unit performs as it previously did you may have a restricted capillary line or condenser or kinked line. Find the point of restriction and correct it.

A restriction reduces the flow rate of the refrigerant and consequently reduces the rate of heat removal. Complete restriction may be caused by moisture, solid contaminants in the system, or a poorly soldered joint. Moisture freezes at the evaporator inlet end of the capillary tube or solid contaminants collect in the drier-filter. The wattage drops because the compressor is not circulating the usual amount of refrigerant.

As far as pressure readings are concerned, if the restriction, such as a kinked line or a joint soldered shut is anywhere on the low side, the suction pressure would probably be in a vacuum while the head pressure will be near normal. If the restriction is on the high side, the suction pressure, again, will probably be in a vacuum while the head pressure will be higher than normal during the pump out period described earlier. In either case, it will take longer than the normal ten minutes or so for the head pressure to equalize with the low side after the compressor stops.

Symptoms of Air in System

This can result from a low side leak or improper servicing. If a leak should occur on the low side, the temperature control would not be satisfied; thus, continuous running of the compressor would result. The compressor would eventually pump the low side into a vacuum drawing air and moisture into the system. Air and R134A do not mix so the air pressure would be added to the normal head pressure, resulting in higher than normal head pressures.

One way to determine if air is in the system is to read the head pressure gauge with the product off and evaporator and condenser at the same temperature and then take the temperature on the condenser outlet tube. This temperature should be within 3° or 4° F. of what the Pressure-Temperature Relation chart shows for the given idle head pressure. If the temperature of the condenser outlet is considerably lower than the idle head pressure of the gauge this would indicate there is air in the system.

Thorough leak checking is necessary. Correct the source of the leak. Do not attempt to purge off the air because this could result in the system being undercharged. It is best to discharge, replace drier, evacuate and recharge with the specified refrigerant charge.

System Diagnosis

Symptoms of Low or High Ambient Temperature Installation

Lower ambient air temperature reduces the condensing temperature and therefore reduces the temperature of the liquid entering the evaporator. The increase in refrigeration effect due to operation in a lower ambient results in a decrease in power consumption and run time. At lower ambients there is a reduction in cabinet heat leak which is partially responsibile for lower power consumption and run time.

An increase in refrigeration effect cannot be expected below a certain minimum ambient temperature. This temperature varies with the type and design of the product.

Generally speaking, ambient temperatures cannot be lower than 60° F. without affecting operating efficiency. Conversely, the higher the ambient temperature the higher the head pressure must be to raise the high side refrigerant temperature above that of the condensing medium. Therefore, head pressure will be higher as the ambient temperature raises. Refrigerators installed in ambient temperatures lower than 60° F. will not perform as well because the pressures within the system are generally reduced and unbalanced. This means that the lower head pressure forces less liquid refrigerant through the capillary line. The result is the symptoms of a refrigerant shortage. The lower the ambient temperature the more pronounced this condition becomes.

When a point where the ambient temperature is below the cut-in of the Temperature Control is reached, the compressor won't run.

The drain traps will freeze in ambient temperatures of 32° F.

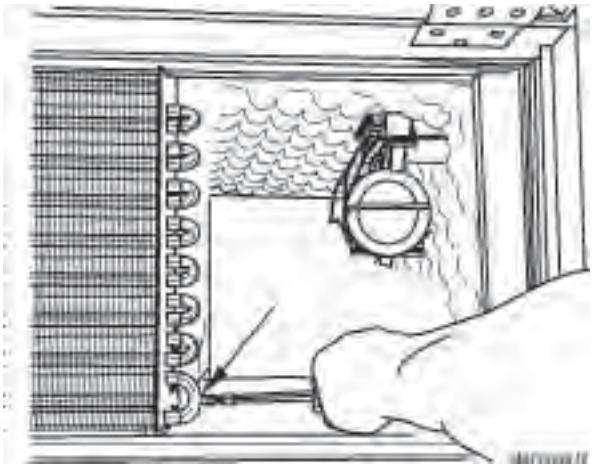
Heat Load

A greater heat load can result from the addition of more than normal supply of foods, such as after doing the weekly shopping. Other items contributing to an additional heat load would be excessive door openings, poor door sealing, interior light remaining on, etc.

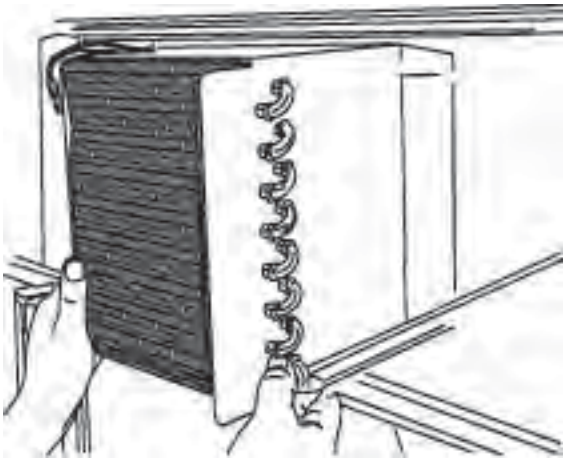
An increase in heat being absorbed by the refrigerant in the evaporator will affect the temperature and pressure of the gas returning to the compressor. Compartment temperatures, power consumption, discharge, and suction pressures are all affected by heat load. Pressures will be higher than normal under heavy heat load.

COMPRESSOR REPLACEMENT

1. Turn the main power switch in the machine compartment to the off position
   Evacuate the sealed system.



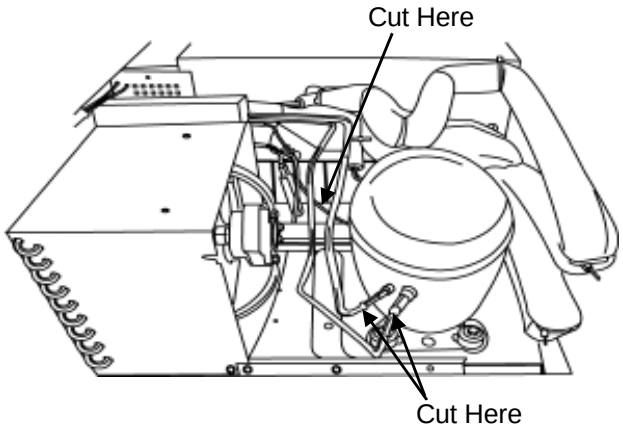
2. Remove the high side slide rail mounting screw.
3. Slide the high side foward into the service position.



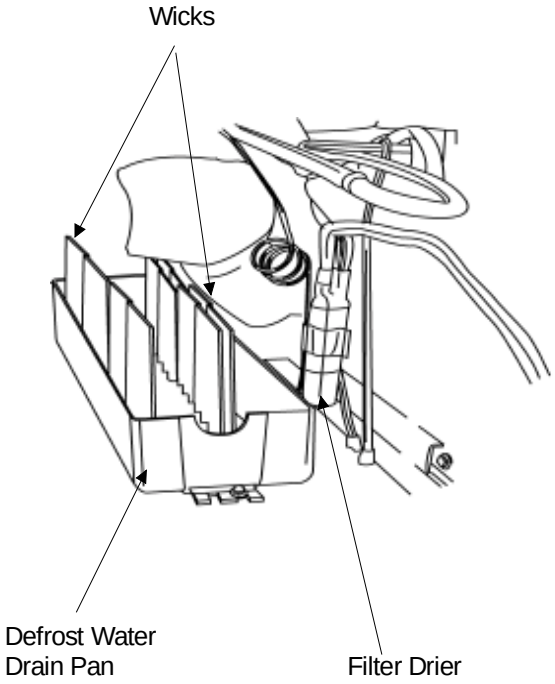
4. Clean and cut the refrigerant lines as close as possible to the compressor stubs, leaving enough length to install the replacement compressor.

NOTE: A new drier must be installed each time any component of the system is opened or replaced.

NOTE: The holding charge is your assurance that the new compressor is dry and ready to install. If you receive a replacement compressor that shows no evidence of holding charge when you remove the plugs, return it.



5. Disconnect lead wires from compressor terminals.
6. Remove the bolts from the compressor mounts. Remove defective compressor from cabinet and install rubber grommets on replacement compressor.
7. Clean the compressor stubs with an abrasive cloth such as grit cloth No. 23. Do not open the compressor stubs.
8. Install the replacement compressor using the mounting bolts previously removed.
9. Connect the compressor leads.
10. Transfer the process tube from the old compressor. Connect the refrigerant tubing to the compressor stubs using silfos on copper to copper joints and silver solder and flux on steel to copper joints.
11. Locate and remove old drier. Install new drier. The new driver is installed in the following manner:
    a. Carefully bend the old drier and tubing away from electrical parts.
    b. Use steel wool or fine emery paper to clean the capillary tube 3 inches from the original joint. Also, clean the input tubing to the drier of 3 inches from the original joint.
    c. Use steel wool or fine emery paper to clean both ends of the new drier. Use a knife or file to score the capillary tube 1 inch from the original joint. Use your finger to break the connection.
    d. Make an offset 1/2" from the end of the cap tube to prevent it from penetrating too far into the drier.
    e. Cut the inlet tube of the replacement drier and use pliers to snap off the scored end. Transfer the process line to the new drier.
    f. Install the new drier using silfos yoder tube and the drier to compressor.



12. Evacuate, recharge and leak test the system.
13. Test run the unit to check operation
14. Replace the machine compartment cover.

CONDENSER REPLACEMENT

The following general information explains how to successfully replace the condenser for any model covered in this manual.

1. Remove the Machine compartment access door.
2. Turn the main power switch in the machine compartment to the off position. (See figure 1)

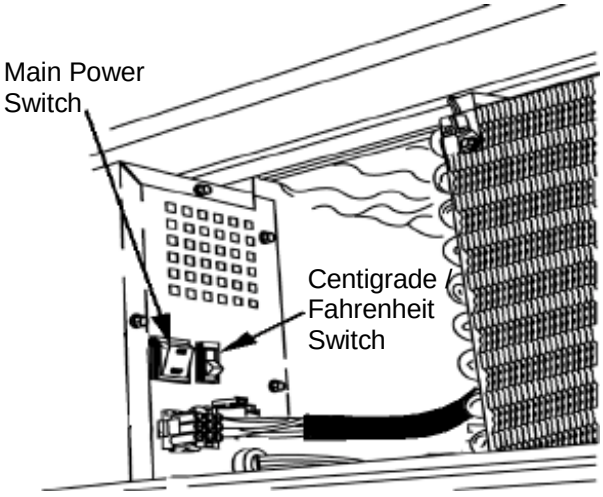


Figure 1

3. Remove the high side slide rail mounting screw. (See figure 2).

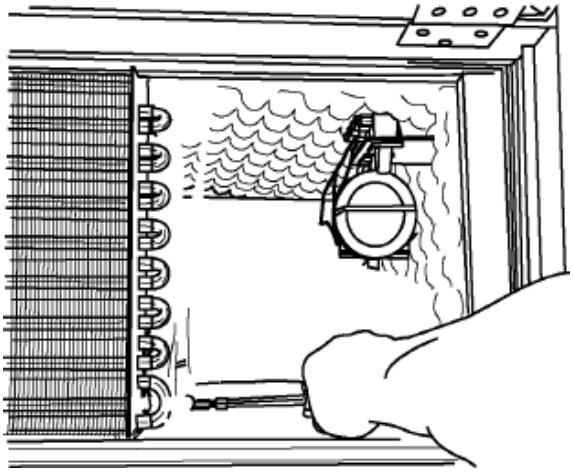


Figure 2

4. Slide the highside assembly forward into the service position.
(See figure 3).

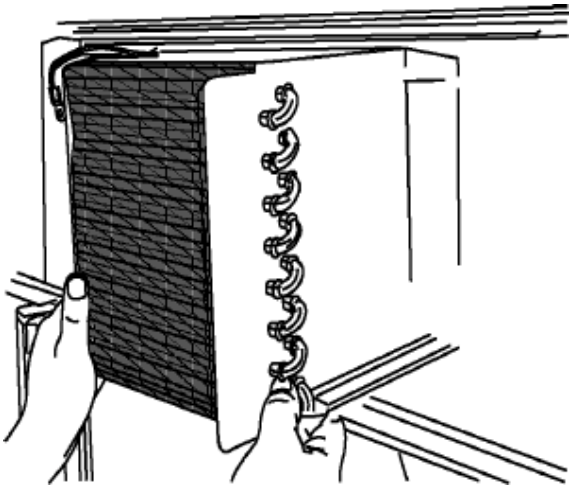


Figure 3

5. Disconnect the fan motor wire lead connector. (See figure 4)

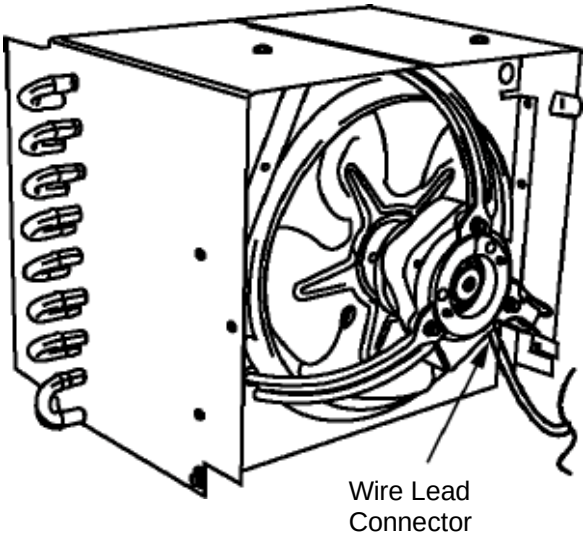
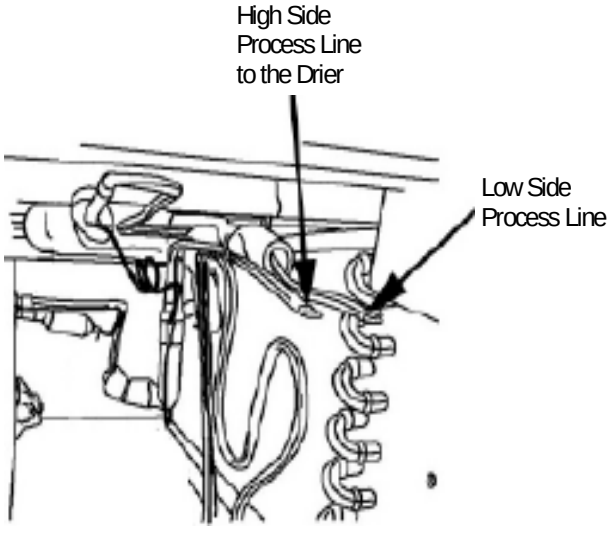


Figure 4

6. Evacuate the sealed system.
7. Use steel wool or fine emery paper to clean and then cut the inlet and the outlet tube of the old condenser.
8. Clean both the inlet and outlet end of the new condenser.
9. Remove the condenser assembly from the compressor mounting pan and place it on a workable surface.
10. Remove the shroud/condenser screws which secure the fan motor shroud to the condenser.
11. Transfer all clips to the replacement condenser. Install the mounting screws.
12. Set the replacement condenser on the compressor mounting pan and install both front and rear condenser mounting screws.
13. Clean then connect the discharge line to the inner tubing. Clean and connect the Yoder loop to the outer tubing of the condenser.
14. Solder all joints. Silver solder and proper flux should be used on copper to steel or steel to steel joints. Excess flux should be wiped off all tubing.
15. Remove and replace the old drier. **Do not allow more than 1/2" of the cap tube to penetrate the drier.**
16. Install the new drier using silver solder with the proper flux.
17. Visually check the joints for leaks.
18. Connect the fan motor wire connector.
19. Evacuate and recharge the system.

EVAPORATOR REPLACEMENT

1. Remove the Machine compartment access door.
2. Turn the main power switch in the machine compartment to the off position.
3. Remove the high side slide rail mounting screw.
4. Slide the highside assembly forward into the service position.
5. Evacuate the sealed system.



6. Open the freezer door and push back on the light shield retaining tabs then lower the shield. (See figure 1)

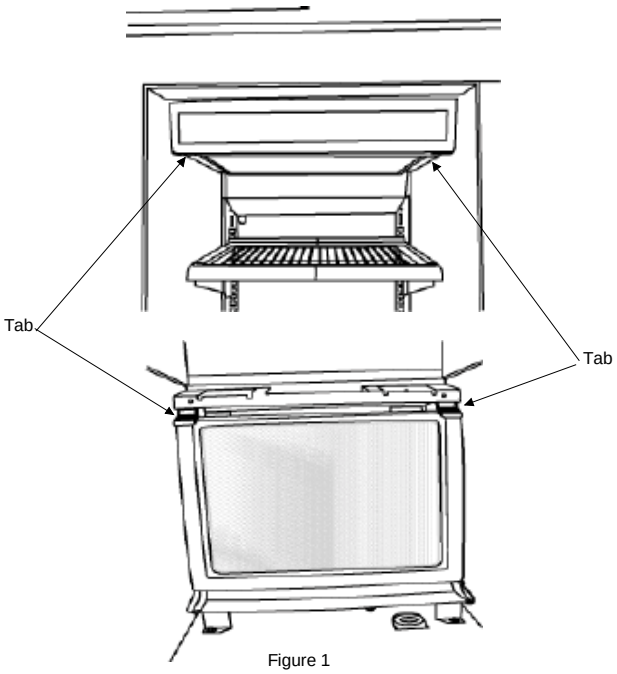


Figure 1

7. While lowering the light shield pull forward to remove the shield from the rear mounting screws.
8. Remove the rear light shield mounting screws.
9. To remove the air diffuser, remove the four mounting screws shown.
10. Disconnect the auto damper stepper motor electrical quick disconnect.

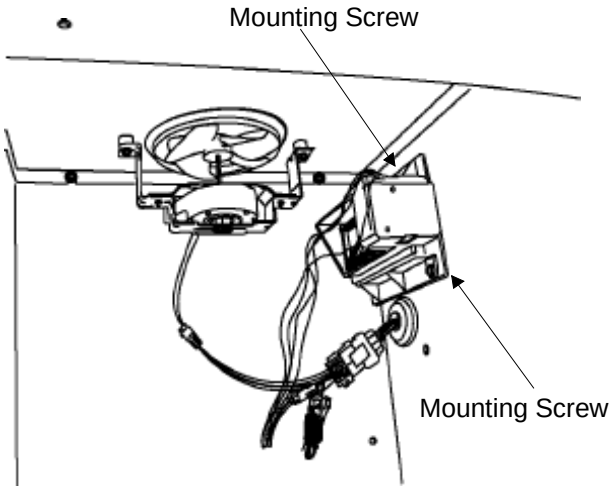


Figure 2

11. Remove the auto damper stepper motor bracket mounting screws. (See figure 2).

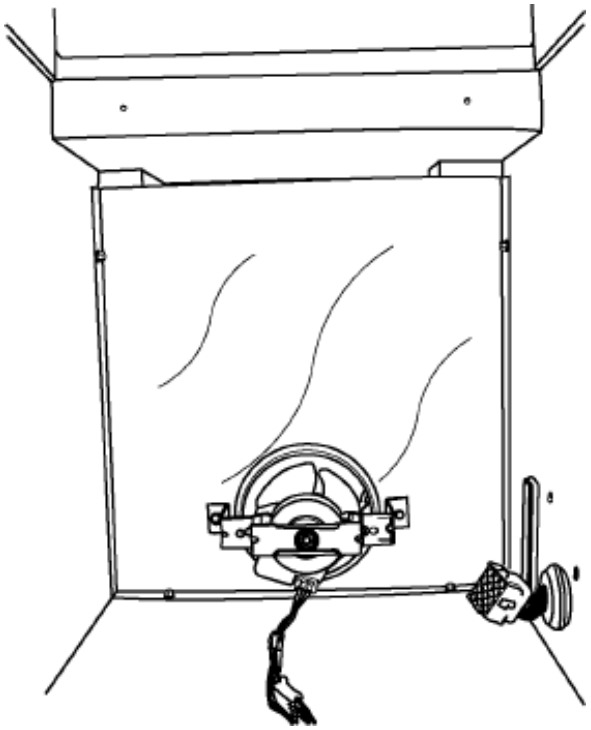


Figure 3

12. Remove the evaporator cover mounting screws. (See figure 3).
13. Disconnect the evaporator fan motor remove the evaporator cover assembly.

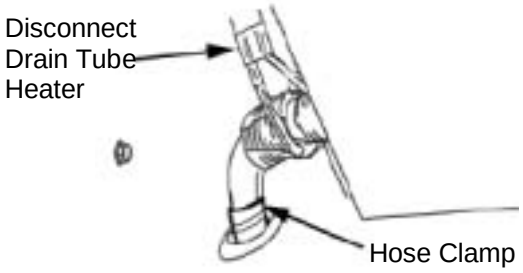


Figure 4

14. Remove the drain tube hose clamp. Disconnect the plastic drain tube hose from the drip pan elbow. Disconnect the drain tube heater. (See figure 4)
15. Disconnect the drain tube and drip pan heater wire harness quick disconnects.

16. Remove the drip pan assembly.
order of removal and all other parts that were previously removed.

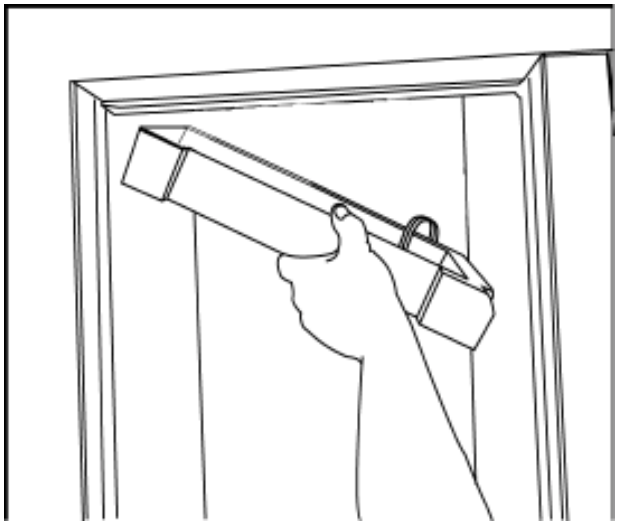


Figure 5

17. Carefully lower the drain pan assembly. (See figure 5).

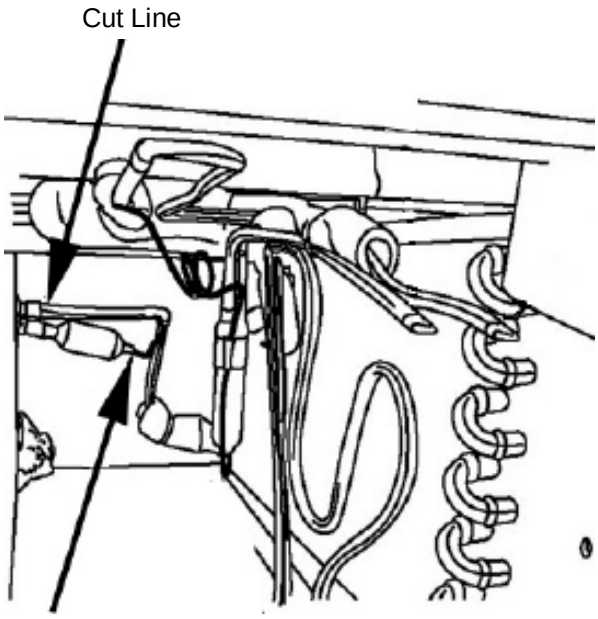


Figure 6

18. Cut the suction line and the cap tube in the machine compartment. (See figure 6).
19. Remove the evaporator mounting screw.
20. Remove the evaporator assembly transfer the heaters to the new assembly.
21. Install the new evaporator assembly in reverse order of removal and all other parts that were previously removed.
22. Change the drier. Evacuate and recharge and test the system.

HEAT EXCHANGER REPLACEMENT

1. Follow steps one thru three on compressor replacement.
2. Unsolder the suction line from the suction stub of the compressor.
3. Unsolder the other end of the suction line from the evaporator.
4. Unsolder the capillary tube at the muffler.
5. Remove and replace the old drier from the yoder loop.
6. Remove the old heat exchanger.
7. Make an offset 1/2" from the end of the capillary tube and insert it into the new drier.
8. Install the new heat exchanger assembly in reverse order of removal.
9. Sweep and recharge the unit.
10. Test for leaks.
11. Install the machine compartment cover.
12. Test run the refrigerator to make sure it is operating properly.

ELECTRICAL SYSTEM

- The wiring diagram is located in the machine compartment area.
- All electrical components are grounded to the cabinet.
- The green/yellow center conductor in the power cord is attached to the cabinet to provide a ground circuit when the cord is plugged into a properly grounded outlet.
- After replacing an electrical component, ***always reconnect the ground wire.***
- The electrical outlet should be checked to make sure it is properly wired. Check the outlet with a circuit tester.

The Compressor

The compressor is a variable speed compressor. The starting and run speeds are controlled by the compressor PC board. The compressor terminals resistance are of equal value. Placing ohm meter probes on any two terminals of the compressor should read the same.

Note: There are no overload protector or starting relay on the terminals of the compressor every thing is controlled on the PC board.

Condenser Fan Motor Replacement

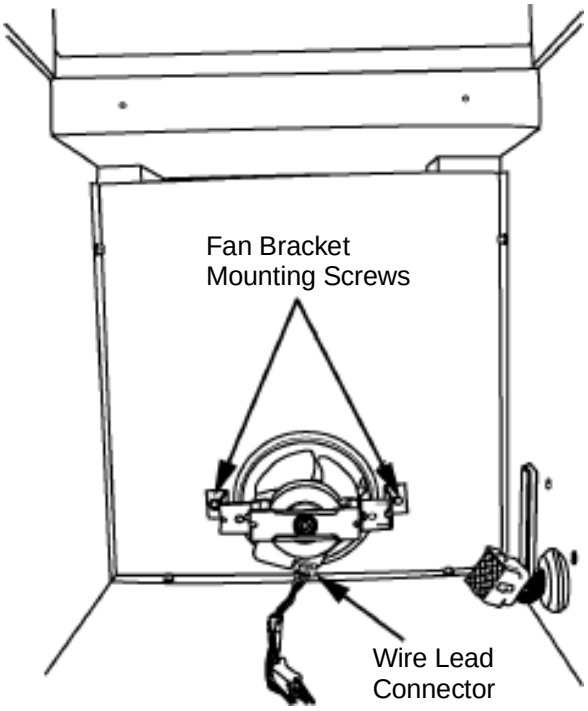
1. Remove the machince compartment access door
2. Shut the main power switch off.
3. Remove the high slide pan mounting screw. Slide the highside assembly forward into the service posistion.
4. Disconnect the condenser fan motor lead connector on the motor terminals.
5. Remove the screws that mount the fan motor to the brackets.
6. Transfer the fan blade to the replacement motor making sure it is installed in the same manner as the original.
7. Install the fan motor leads.
8. Install those parts previously removed. Test run the unit.

Freezer Fan Motor

The freezer fan motor is a variable speed DC voltage fan motor it is control by the main PC board. It circulates the cooled air throughout the freezer and fresh food compartment. It runs in tandem with the stirrer fan motor in the fresh food compartment. The fan blade is made of polyethylene and is pushed onto the shaft. It is important when replacing the fan blade that the hub of the fan blade faces out, toward the of the evaporator cover. If the fan fails or operates erratically, the reduced air circulation will result in poor cooling characteristics.

Freezer Fan Motor Replacement

1. Shut the main power switch off.
2. Do steps 5 through 11 on evaporator replacement.
3. Disconnect the evaporator fan motor lead connector on the motor terminals.
4. Remove the screws that secure the motor bracket assembly to the fan shroud.
5. Remove the fan blade by pulling if off the shaft.
6. Remove the screws that secure the rear bracket to the front bracket. Remove the motor from the rear mounting bracket.
7. Install the replacement feezer fan motor in reverse order of removal.



Fresh Food Fan Motor Assembly

The fresh food fan motor is variable speed DC voltage fan motor it draws air into the fresh food compartment from the freezer via the auto damper. The damper opens and the stirring fan pulls in cold air from the freezer it mixes with the existing fresh food air. Air blows down the back wall and returns up the front of the fresh food compartment via fresh food return air duct. The fan blade is made of polyethylene and is pushed onto the shaft. It is important when replacing the fan blade that the hub of the fan blade faces out, toward the of the evaporator cover. If the fan fails or operates erratically, the reduced air circulation will result in poor cooling characteristics.

Fresh Food Fan Motor Replacement.

1. Shut the main power switch off.
2. Open the fresh door and push back on the light shield retaining tabs then lower the sheild.
3. Remove the three fan/light housing assembly mounting screws.
4. Lower the housing.

5. Remove the wiring harness quick disconnect connector.
6. Remove the two fan backet assembly mounting screws.
7. Remove the fan blade by pulling it off the shaft.

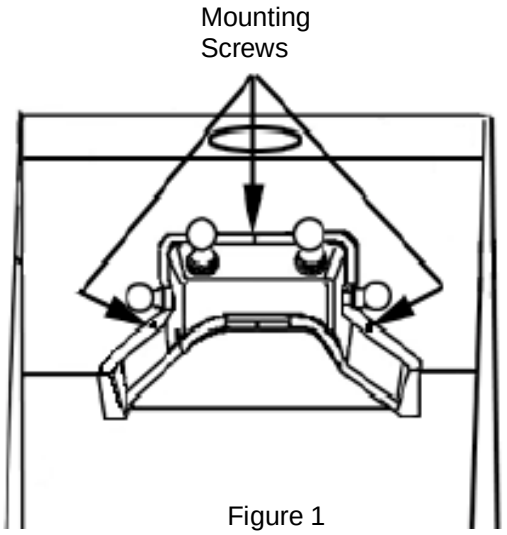


Figure 1

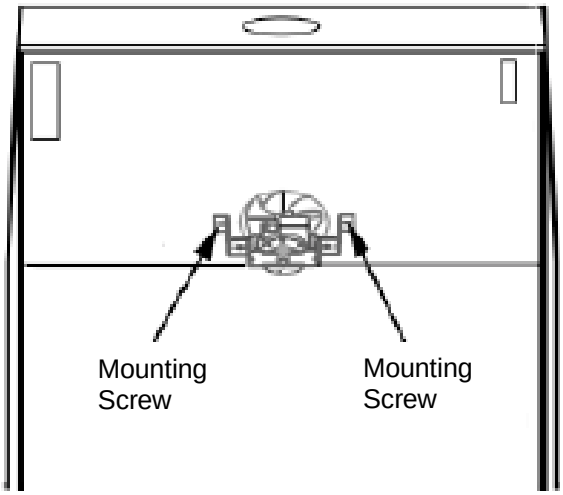


Figure 2

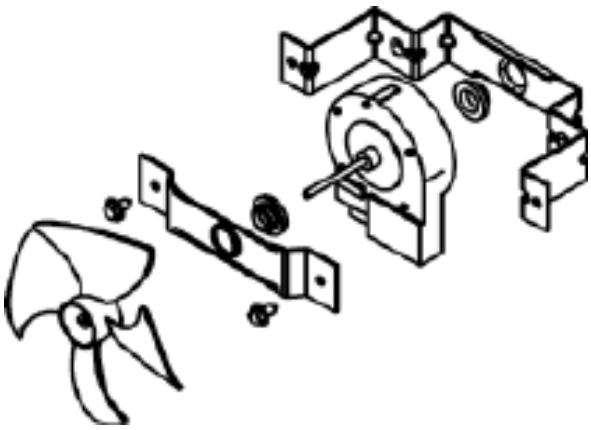


Figure 3

8. Remove the screws that secure the rear bracket to the front bracket. Remove the motor from the rear mounting bracket.
9. Install the new motor to the rear mounting bracket. Mount the rear bracket to the front mounting bracket.
10. Install the fan blade on the replacement motor. The fan blade is provided with a stop on the face of the hub. It is properly installed when the blade is positioned so the stop rests against the end of the shaft.
11. Replace the fan motor assembly in reverse order of removal.

Defrost Heaters

Two radiant defrost heaters are used to remove the accumulated frost from the freezer evaporator during a defrost cycle. These heaters are wired in series, thus comprising the defrost heater system.

REPLACING THE DEFROST HEATERS

1. **Shut the main power switch off.**
2. Perform steps 6 through 17 of **Evaporator Replacement.**
3. Using long nose pliers remove the two front and back wire retainer clips. (One on the right side and one on the left. Carefully lower the radiant defrost heaters. (See figure 1).

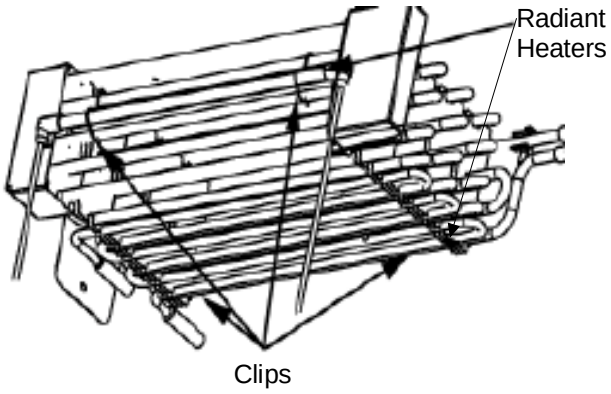
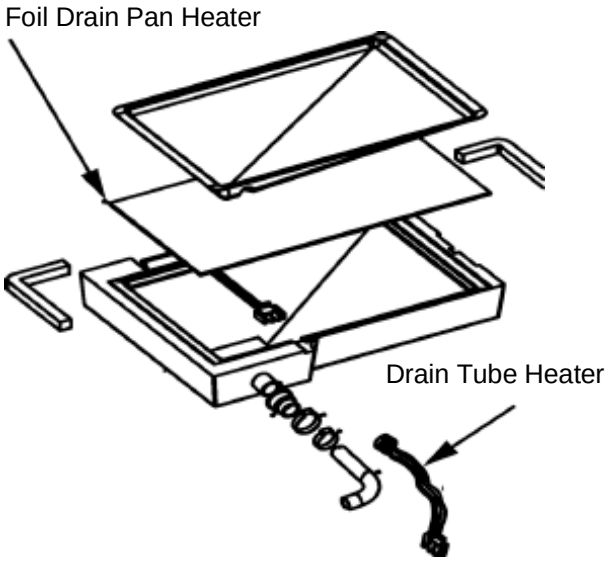


Figure 1

REPLACING THE DRIP PAN AND DRAIN TUBE HEATERS

1. **Shut the main power switch off.**
2. Perform steps 1 through 4 and 6 through 17 of **Evaporator Replacement.**
3. Replace the drip pan heater assembly or drain tube heater coil if open or shorted.
4. Install new parts in reverse order of removal.

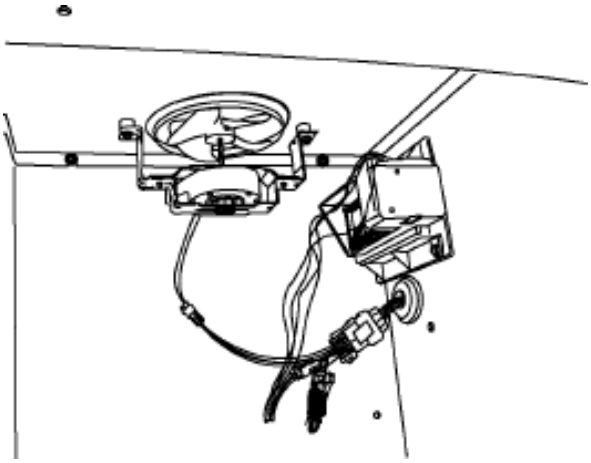


REPLACING THE DEFROST THERMISTOR AND SAFETY THERMOSTATS

1. **Shut the main power switch off.**
2. Perform steps 1 through 4 and 6 through 17 of **Evaporator Replacement.**
3. Install new parts in reverse order of removal.

REPLACING THE AUTO DAMPER STEPPER MOTOR ASSEMBLY

1. **Shut the main power switch off.**
2. Perform steps 1 through 11 of **Evaporator Replacement.**



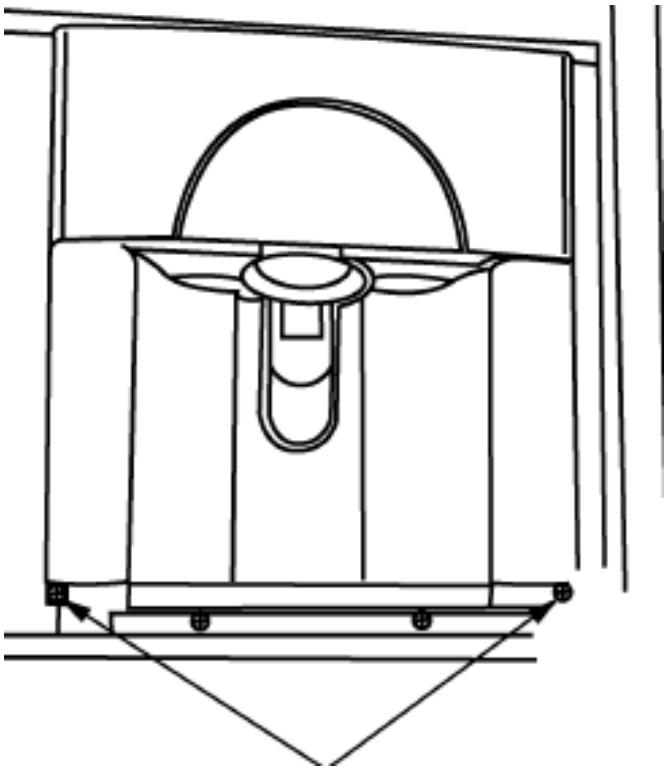
Fountain Assembly

Ice & Water Fountain PC Board/Frame Removal

1. Shut the main power switch off.
2. To remove the grill from the fountain sump pull straight out. (See figure 1).

Figure 1

3. Remove the two fountain liner screws.



Mounting Screws

Figure 2

4. Remove the fountain liner (see figure 3).

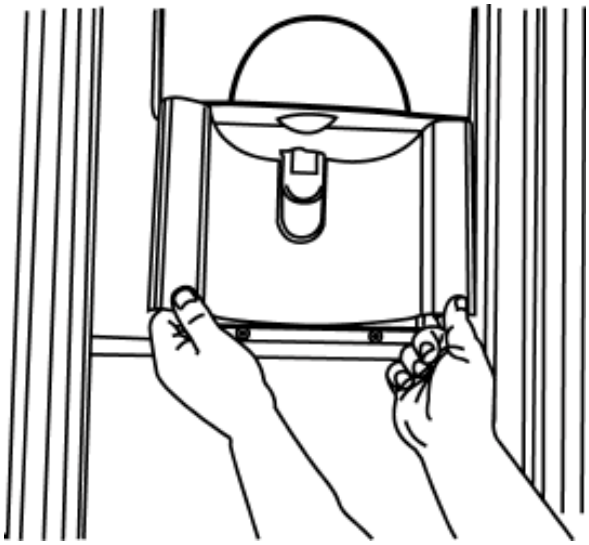


Figure 3

5. Remove the two fountain escutheon mouning screws. (See figure 4).

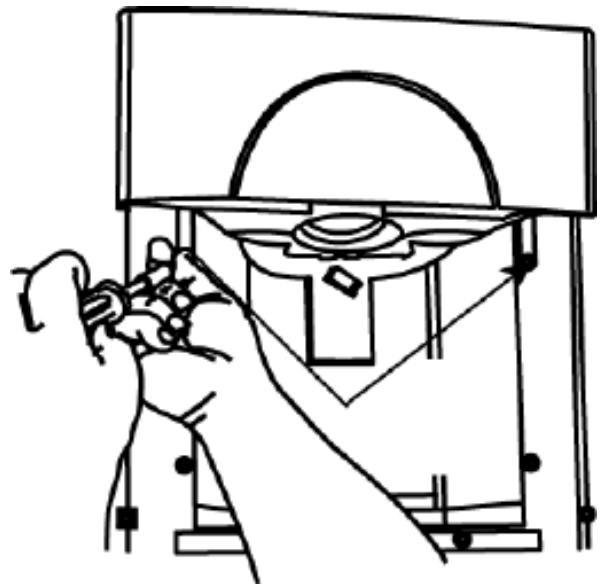
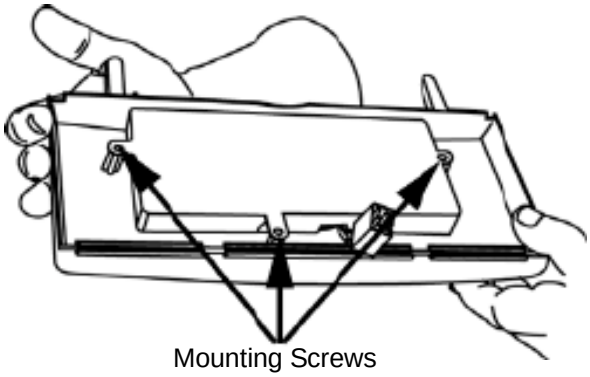


Figure 4

6. Remove the escutheon.



Mounting Screws

Figure 5

7. Remove the three PC/Frame mounting screws.

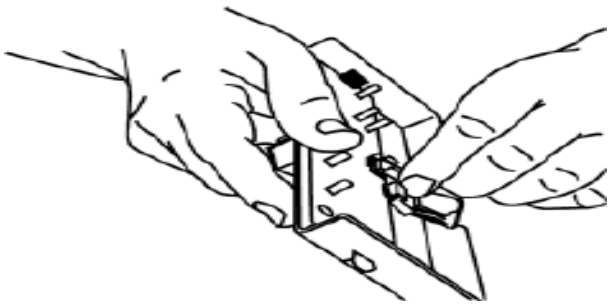


Figure 6

8. Disconnect the electrical lead from the fountain PC board/frame assembly.
9. Install the new PC board/frame assembly in reverse order of removal.

Touch Fountain Assembly Removal

1. **Shut the main power switch off.**
2. Perform steps 1 through 7 of **the PC Board/ Frame Removal.**

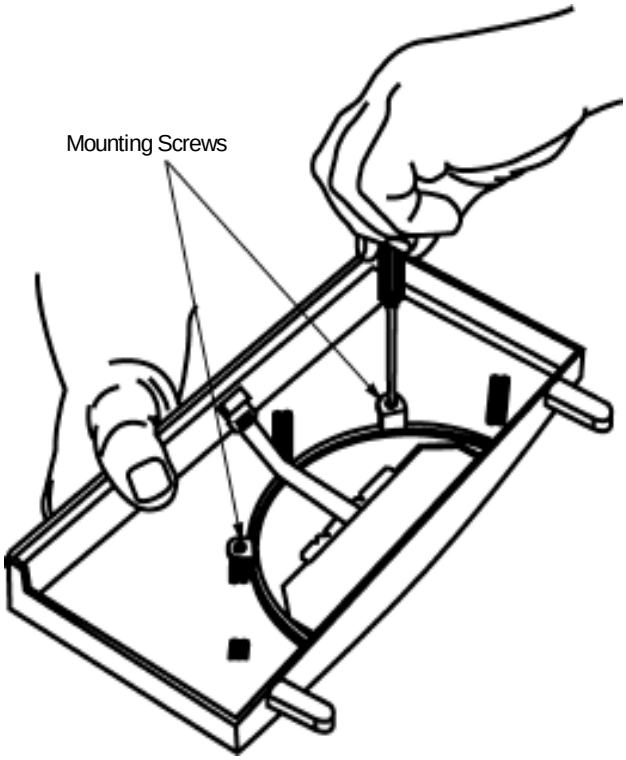


Figure 1

3. Remove the two touch fountain assembly mounting screws (figure 1).
4. Remove the old assembly and install the new assembly in reverse order of removal.

Fountain Bracket Assembly Removal

1. **Shut the main power switch off.**
2. Perform steps 1 through 7 of the **PC Board Frame Removal.**

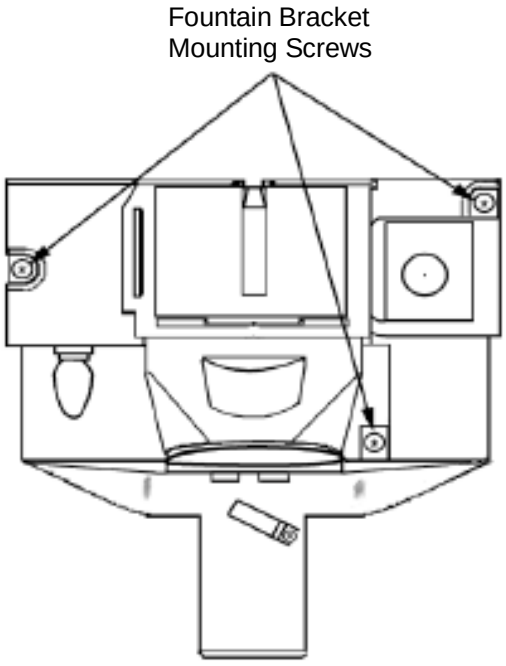
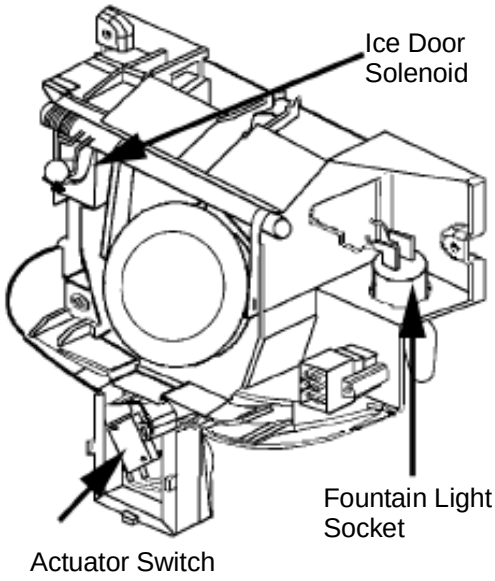


Figure 1

3. Remove the three fountain bracket mounting screws.
4. Carefully pull the assembly out of the fountain housing. You now have full access to the solenoid, dispenser mechanism, light socket and the actuator switch.
5. To repair the assembly , disconnect the electrical quick disconnect.

Checking and Replacing the Actuator Switch:

1. Disconnect the unit from the power Source.
2. Perform steps 1 through 5 of **Fountain Bracket Assembly Removal.**
3. Continuity check the actuator switch shown in figure 1.



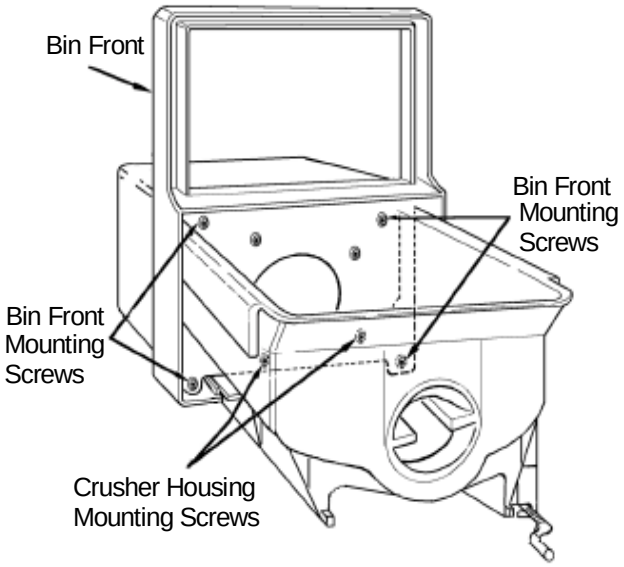
4. Remove the mounting screw.
5. Remove the switch.
6. Remove the wire leads.
7. Install new switch in reverse order of removal.

Checking and Replacing the Ice Door Solenoid

1. Disconnect the unit from the power source.
2. Perform steps 1 through 5 of **Fountain Bracket Assembly Removal.**
3. Remove the wire leads from the solenoid. Continuity check the solenoid shown in figure 1. If defective, go to step 4.
4. Remove the mounting screws.
5. Remove the solenoid.
6. Install the new solenoid in reverse order of removal.

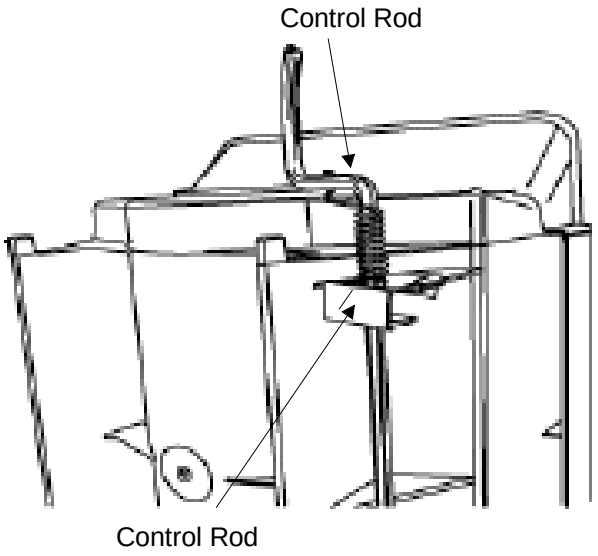
ICE CRUSHER BIN AND SHELF ASSEMBLY

1. To service the ice/crusher related components, turn the ice maker off by lifting the shut off arm. Remove the bin assembly.
2. Remove the four bin front mounting screws.

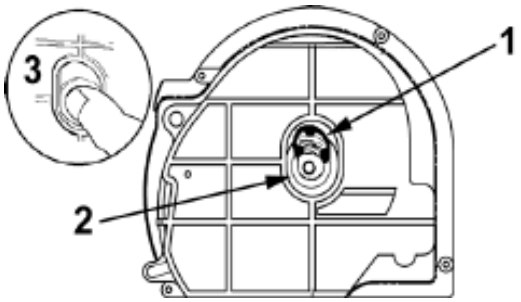


3. Remove the bin front.
4. Place the bin assembly on the crusher housing.

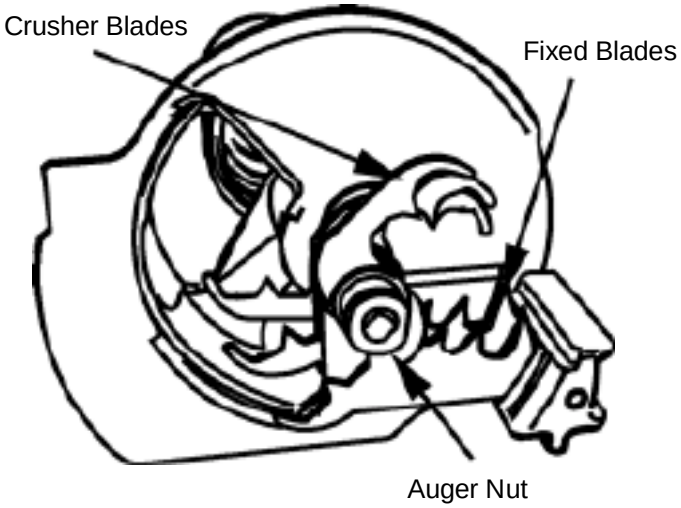
5. When removing the control rod bracket, hold the clip; this will prevent if from being thrown off.



6. When removing the crusher housing, position the snap ring (1) as shown in the drawing below, then remove it and the retainer washer (2).



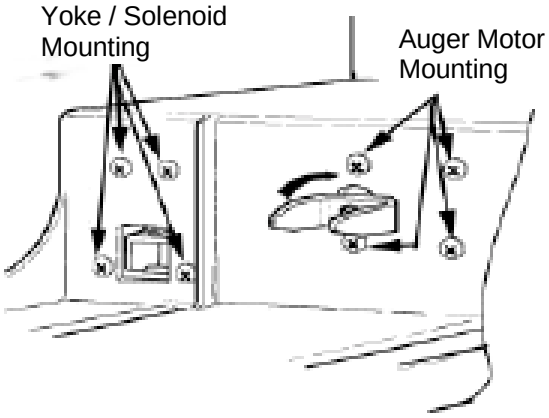
7. Push the auger assembly away from the crusher housing using your thumb (3).



8. To remove the auger nut turn it clockwise.
9. Replace the parts required. The number on the blades should face the back of the auger nut. Blade number 4 should be nearest to the auger nut.
10. Reinstall all other components in the reverse order of removal.

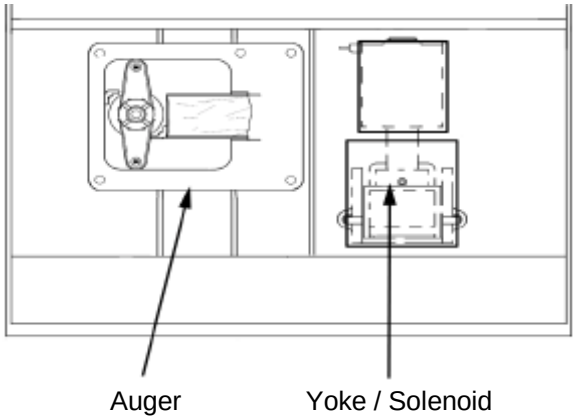
ICE/CRUSHER BIN SHELF

ENCLOSURE ASSEMBLY



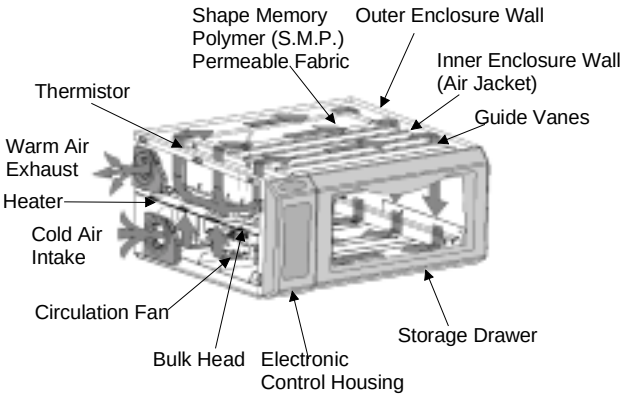
The auger motor and solenoid are located behind the storage bin. The yoke, fastened to the motor, engages the drive ring and turns auger in a clockwise direction. Both the yoke and drive ring are designed to prevent a loosening of the yoke by exerting counter pressure while in operation.

1. **Disconnect the unit from the power source.**
2. Remove the ice/crusher bin assembly.
3. Remove the retainer screw at the bottom left side of the ice/crusher bin shelf enclosure.
4. Pull the shelf forward and disconnect the quick disconnect.



5. Remove the assembly from the freezer and place on a flat work surface.
6. To check the auger motor, attach an ohmmeter probe to the auger motor terminals. The meter should show resistance. If the meter does not show resistance, the motor should be replaced.
7. To replace the motor, hold the auger motor armature and turn the yoke clockwise, releasing yoke from the motor shaft. Remove the yoke and washer.
8. Remove the four mounting screws that fasten the motor enclosure. Remove the motor from the enclosure.
9. Install the replacement part in reverse order of removal.
10. To check the solenoid yoke assembly, attach an ohmmeter to the solenoid terminals. The meter should show resistance. If it does not show resistance, replace the solenoid yoke assembly.
11. Remove the four screws that fasten the solenoid yoke assembly to the enclosure. Remove the assembly from the enclosure.
12. Install the replacement part in reverse order of removal.

CLIMATE ZONE TECHNOLOGY (CZT)



CLIMATEZONE™ STORAGE DRAWERS

The two lower drawers in the fresh food compartment are equipped with ClimateZone™ Technology. This technology allows the temperature within each drawer to be precisely controlled at optimal levels for storing meats, fresh produce and fruit, or citrus fruits.

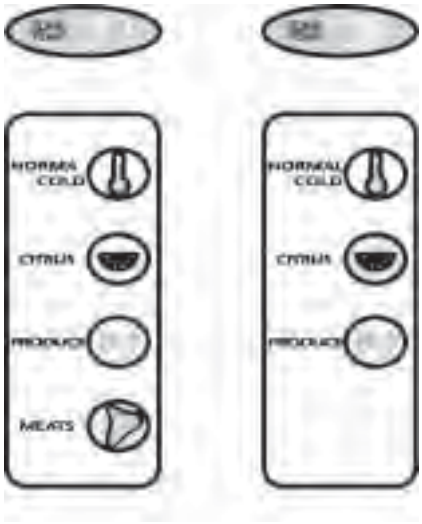
The electronic temperature control within these drawers provides preset temperatures based on the food group that is selected. The actual temperature within each ClimateZone™ drawer is displayed electronically. Each setting provides temperatures in the range outlined in the chart below.

Selection	Temperature Set Point	Temperature Display Range
Normal	None	The display will be blank
Citrus	38" F / 3"C	37-39" F / 3-4"C
Produce	34" F / 1 C	33-35" F / 1-2"C
Meats	31" F / -1 C	30-32" F / -1 - 0"C

Varying factors such as environment, drawer openings, refrigerator control settings, etc. may cause the temperature display on the drawer to fluctuate outside the range of temperature listed above. This is normal. For best results, set the fresh food compartment to 37°F (3°C) and the freezer compartment to 0°F (18°C).

Note:

The normal Cold setting turns the ClimateZone™ Technology off and the drawer then operates as a standard crisper.



ClimateZone™ Drawer Settings

The MEATS setting is recommended whenever storing fresh meat, poultry and fish. Store meats in airtight containers or sealed bags to contain any juices. Clean up spills immediately, then disinfect. Select the PRODUCE setting when storing a mixed load of fresh fruits and vegetables, such as:

Apples	Peaches
Green Onions	Broccoli
Nectarines	Asparagus
Radishes	Kiwi fruit
Cabbage	Spinach
Romaine	Celery
Carrots	Leeks
Herbs	Cherries
Strawberries	Lettuce
Cauliflower	Bagged, Pre-cut salads and Vegetables

Select the CITRUS settings when storing fruits such as oranges, grapefruits, lemons, limes,pineapple, cranberriies, watermelons and tangerines.
Fruits and vegtables can be stored loosely wrapped or unwrapped.
Fruits with skins such as apples and grapes should not be stored in airtight bags or containers.

Note:

- After prolonged or repeated drawer openings and/or loading the drawers the display may indicate a higher temperature. This is normal. The temperature will recover in a short period of time.

- Frozen meats will thaw very slowly if stored on the “Meats” setting. Thawing should be done on a refrigerator shelf.

- Under heavy usage conditions, the exterior surface of the ClimateZone™ drawers may fog. This is normal. The condensation will clear once the door is closed for a period of time.

- Due to the accuracy and the location of the ClimateZone temperature sensor system, drawer temperatures measured with household thermometers may vary from the digital display. This is normal.

To Remove CZT Drawers:
- Pull drawer out until it stops
- Lift the front edge and pull all the way out.

To Replace the CZT Drawers:
- Set the drawer on the slide tracks.
- Slide the drawer in until the bar rest in slot on underside of drawer front.
- Close the drawer.

ClimateZone™ Bulb Replacement
There is a T8-40 watt bulb located behind each ClimateZone drawer. Replacement bulbs are available from your dealer (MCS part number 61008236)

Note:

The ClimateZone™ drawers, power must be turned off at the main power switch before changing the bulb.

TO REPLACE THE BULB BEHIND THE UPPER CLIMATEZONE™ DRAWER:

- Turn the power off to the refrigerator at the Main Power Switch in the upper machine compartment.

- Unload and remove both ClimateZone™ drawers.

- Remove the ClimateZone™ air diverter located at the rear of the fresh food compartment, on top of the upper ClimateZone™ compartment.

Note:

Do not remove the foam piece between the ClimateZone™ drawers.

After the diverter is removed, 2 mounting screws are visible behind the drawer. Using a 1/4 hex head screw driver, remove these screws.

- Slide the compartment assembly forward.

- Unscrew the bulb and replace with a new T8-40 watt bulb.

- Slide the assembly back into its original position. Align the screw holes, making sure air ducts are in alignment. Replace the two screws, and replace the diverter strip. Reinsert the drawer into the compartment.

- Turn the power switch to the refrigerator back on.

TO REPLACE THE BULB BEHIND THE LOWER CLIMATEZONE™ DRAWER:

- Turn the power off to the refrigerator at the Main Power switch in the upper machine compartment.

- Unload and remove both ClimateZone drawers.
- Remove the ClimateZone™ air diverter located at the rear of the fresh food compartment, on top of the upper ClimateZone™ compartment.

- After the diverter is removed, 2 mounting screws are visible behind the drawer. Using a 1/4 hex head screw driver, remove these screws.

- Slide the compartment assembly forward.

- Disconnect the power cords to free the assembly, then pull it completely out and set it aside.

- Remove the hex head screws behind the lower compartment.

- Slide the lower compartment assembly forward.

- Unscrew the bulb and replace with a new T8-40 watt bulb.

- Slide the assembly back into its original position and align the screw holes. Replace the two screws.

- Lift the upper assembly back into its orginal position leaving enough space to reach the power cords. Reconnect the upper assembly power cords.

- Push the assembly back into its original position and align the screw holes. Replace the two screws and replace the diverter.

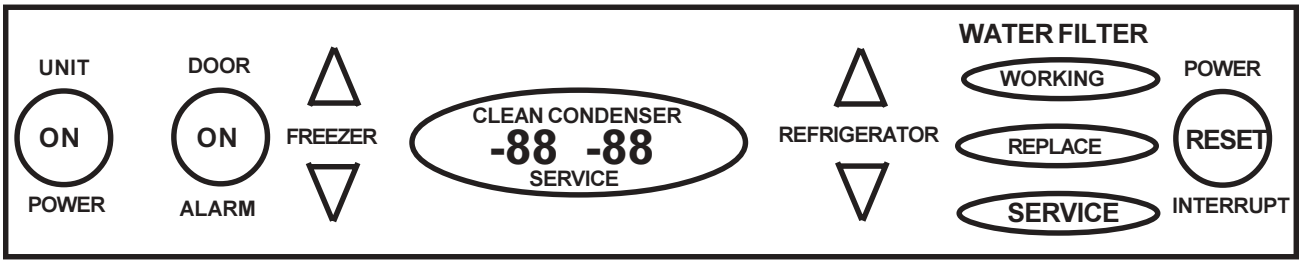
- Replace the drawers.

- Turn the power back on to the refrigerator.

CZT TEST MODE

1. Open the refrigerator door and tape the door switch closed.
· The CZT control display should be off.
2. Touch and hold the Citrus and Produce keypads simultaneously for 5 seconds.
· The LCD should display –88 and be illuminated.
· All keypads should be illuminated.
· The fan should stop.
· The damper should close.
· Wait 7 seconds.
3. Touch the Citrus Keypad.
· The fan should begin turning. (If the control cannot monitor the fans performance for proper function an F will be displayed on the LCD)
· The control will test for the heater installation. (If the heater cannot be properly sensed an H will be displayed.)
· The damper should open.
· The LCD should be blank and illuminated.
· The Citrus Keypad should be illuminated.
· Wait 7 seconds.
4. Touch the Produce Keypad.
· The control will test for the proper installation of the temperature thermistor. (If a Open Circuit is sensed an OC will be displayed. If a Short is sensed, a CC for Closed Circuit will be displayed.)
· The LCD should be blank and illuminated.
· The Product Keypad should be illuminated.
5. Touch the Meat Keypad.
· The Meat keypad should be illuminated.
· (SKIP THIS STEP ON 3 BUTTON CZTs)
6. Touch the Normal Off Keypad.
· This will end the test mode.
· The control will appear to be in the normal “door closed” state.
· The test mode will also be terminated if the refrigerator door switch is opened, or 5 minutes passes after the beginning of test mode.

TROUBLESHOOTING DIAGNOSTIC PROCEDURES



POWER SUPPLY DIAGNOSTICS

Check for line voltage inputs and outputs per label on top of the power supply.

1. LINE INPUT

- With main power switch ON check for line input on input terminal.

2. DC OUTPUT

- Check for +12VDC and +26VDC output on output terminal.
- Check for +12VDC on main control terminals JP11-3,2
- Check for +26VDC on main control terminals JP11-3,1
- If voltage is “Pulsing” in a repetitious manner there is probably an overload condition on the output side of the power supply.

☐ Remove JP7

☐ If “Pulsing” persists test JP7 harness for short circuits (JP7-15, & JP7-15,16)

☐ If “Pulsing” stops remove JP11.

☐ If “Pulsing” persusts replace power supply.

☐ If “Pulsing” stops replace main control.

*** Software Revision**

Diagnostic Control Mode

Unit always start in normal operation or showroom mode. To get into "mode selection" with fresh food door open and the *fresh food door switch taped in the closed position*, press "Power Interrupt" 3 times. Display will show "Current Mode". Use the FZ up & down selector to change mode selection.

PI - POWER Interrupt
FU - Freezer Up
FD - Freezer Down

MODE
NO
NORMAL OPERATION

Unit Performs in normal operating mode according to the product specifications

MODE
SH
SHOW ROOM MODE

Disables the refrigeration systems and fans. Customer interface keypads and displays continue in normal operation

Note: If the unit is turned off and both doors are closed the unit will turn back on.

MODE
SE
MANUAL

Service Test
00
Enter / Exit

PI-Start and Stop Test
Used to enter and leave the manual service test mode. The unit will stop all normal functions and only operate the loads or sensors for each individual test period manually initiated.

Service Test
01
Software Revision

PI-Start and Stop Test
Will display the software release version (As found at top of page)

Service Test
02
High Ambient
Override

PI- Set & Un-Set override
Some performance characteristics of the unit are altered in high abient temperatures. These performance characteristic changes can be overridden by setting this override flag. When the flag is set, the Filter Status Indicator will illuminate the WORKING lamp.

Note: You can move through the service modes by 10 modes at a time using the Fresh Food Up & Down Keypads

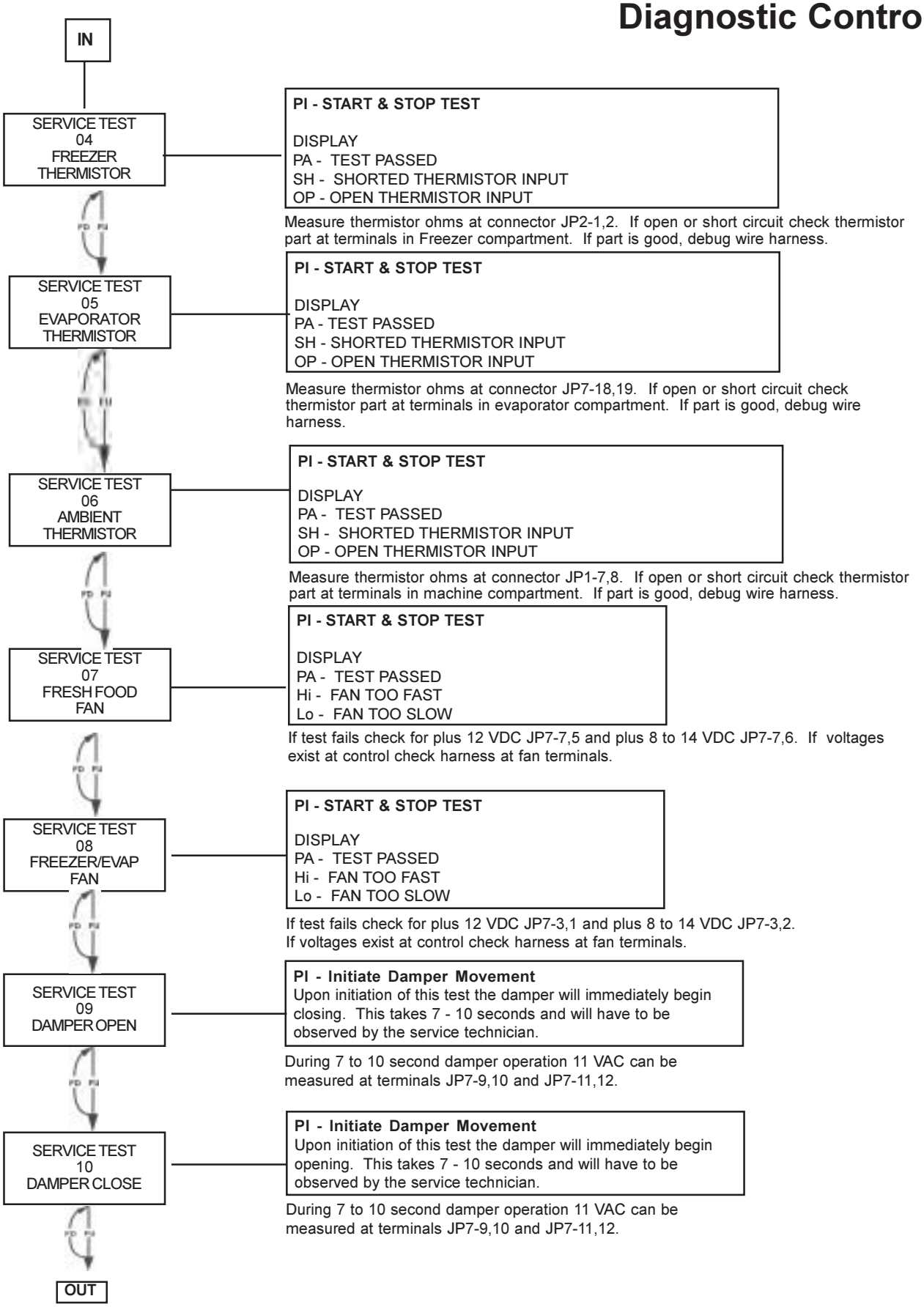
Service Test
03
Fresh Food
Thermistor

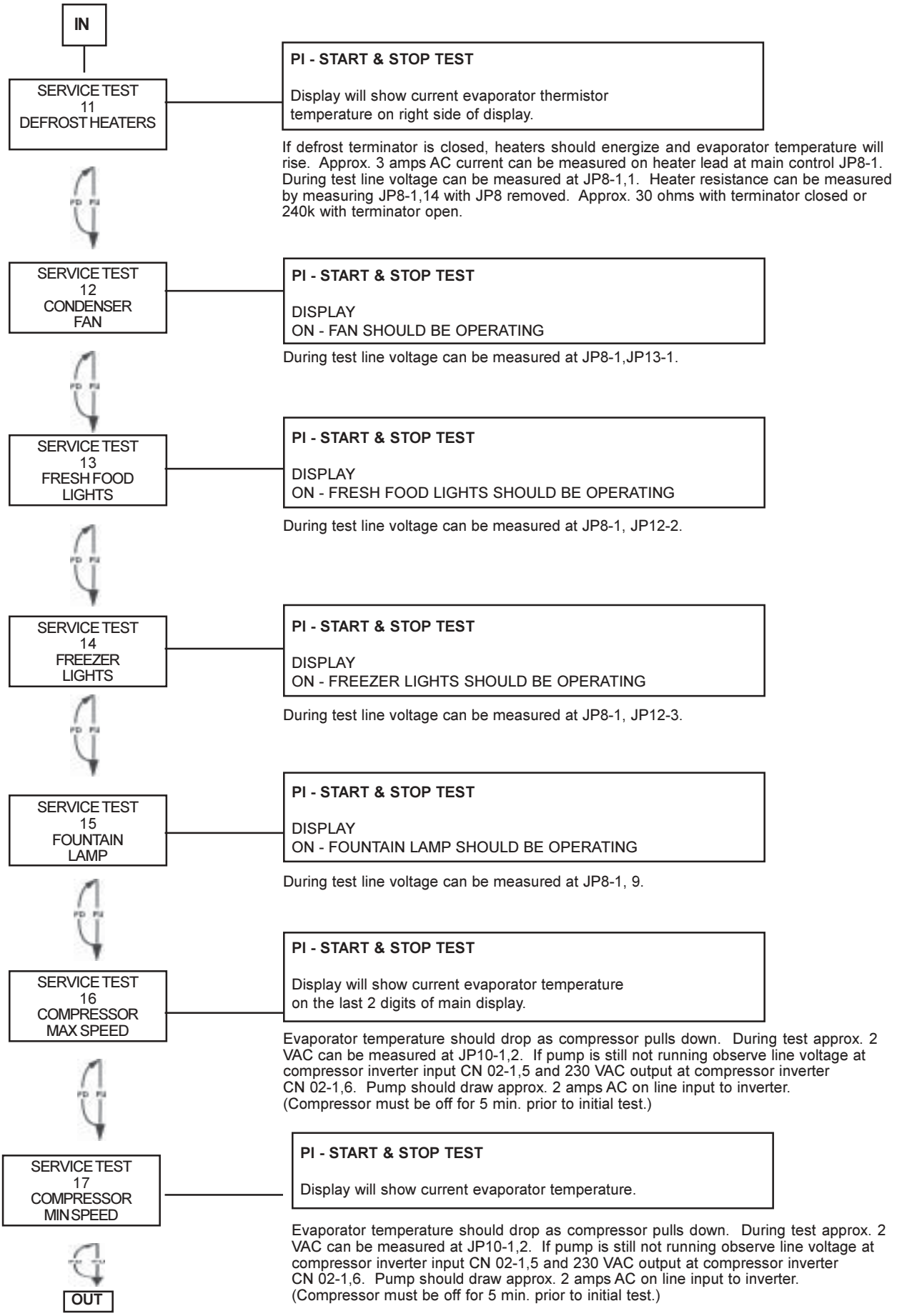
PI-Start & Stop Test
Display
PA - TESTED PASSED
SH - SHORTED THERMISTOR
OP - OPEN THERMISTOR INPUT

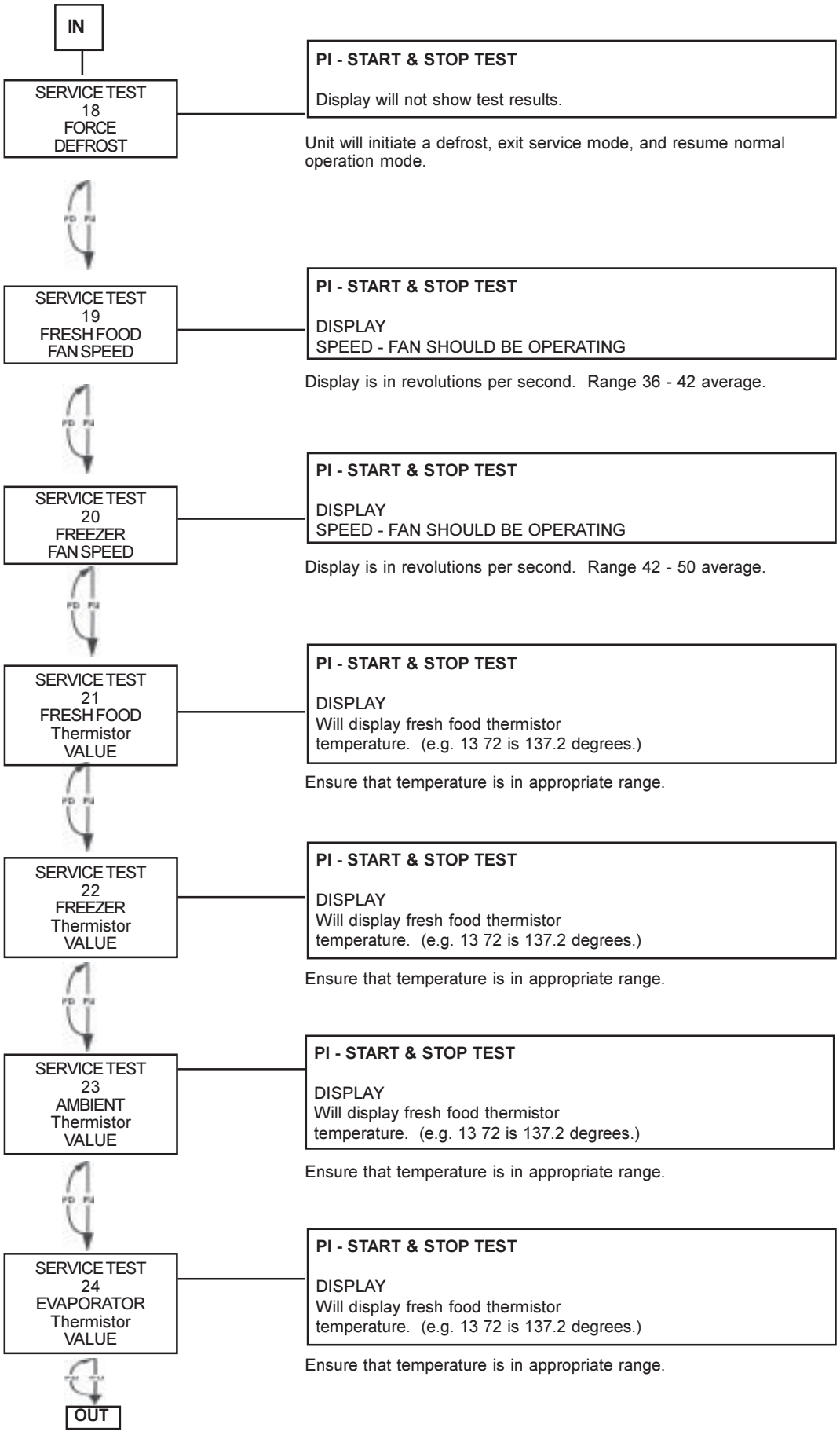
Measure thermistor ohms at connector JP2-3,4 with JP2 removed. If open or short circuit check thermistor part at terminals in FF compartment. If part is good, debug wire harness.

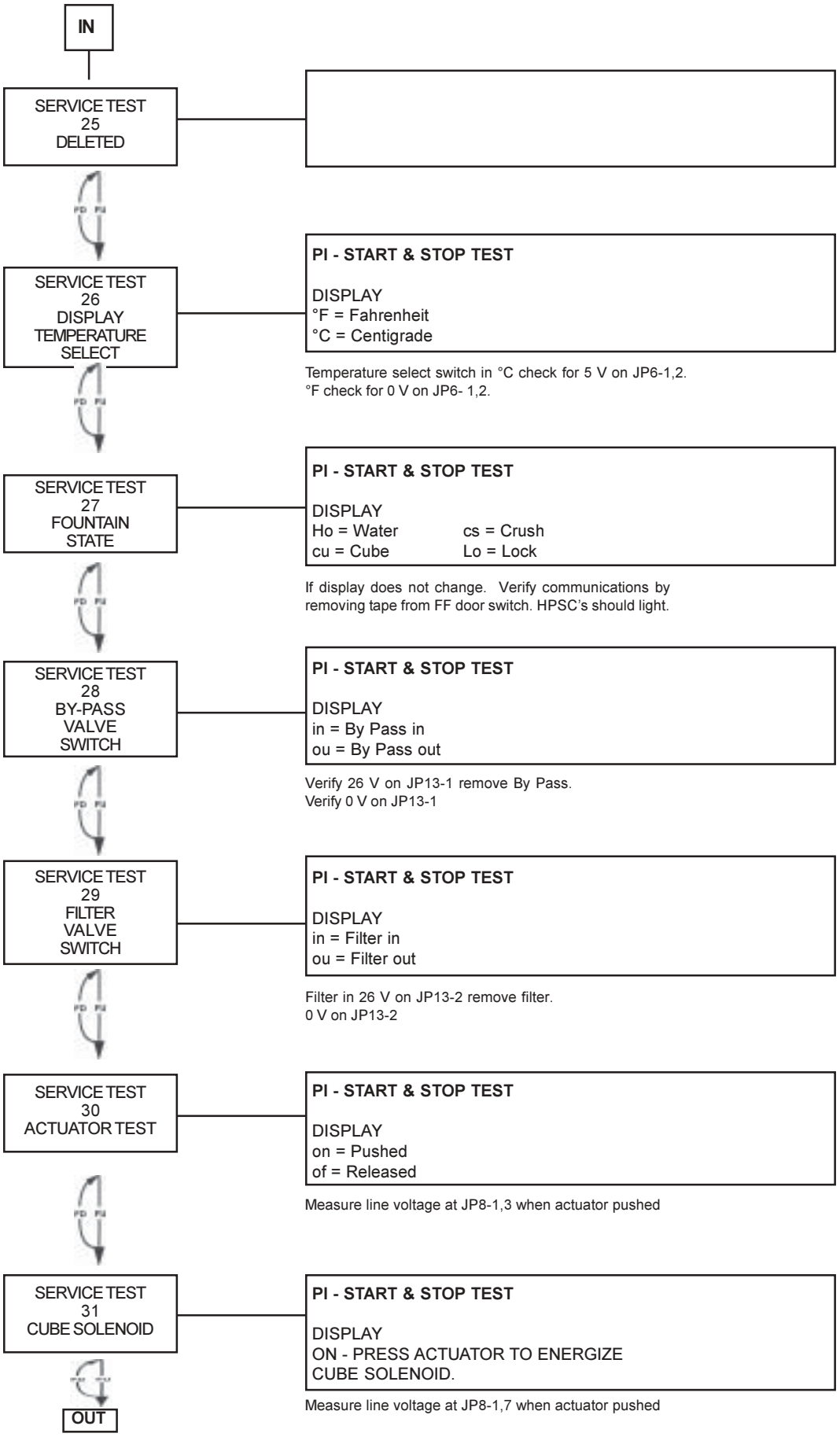
OUT

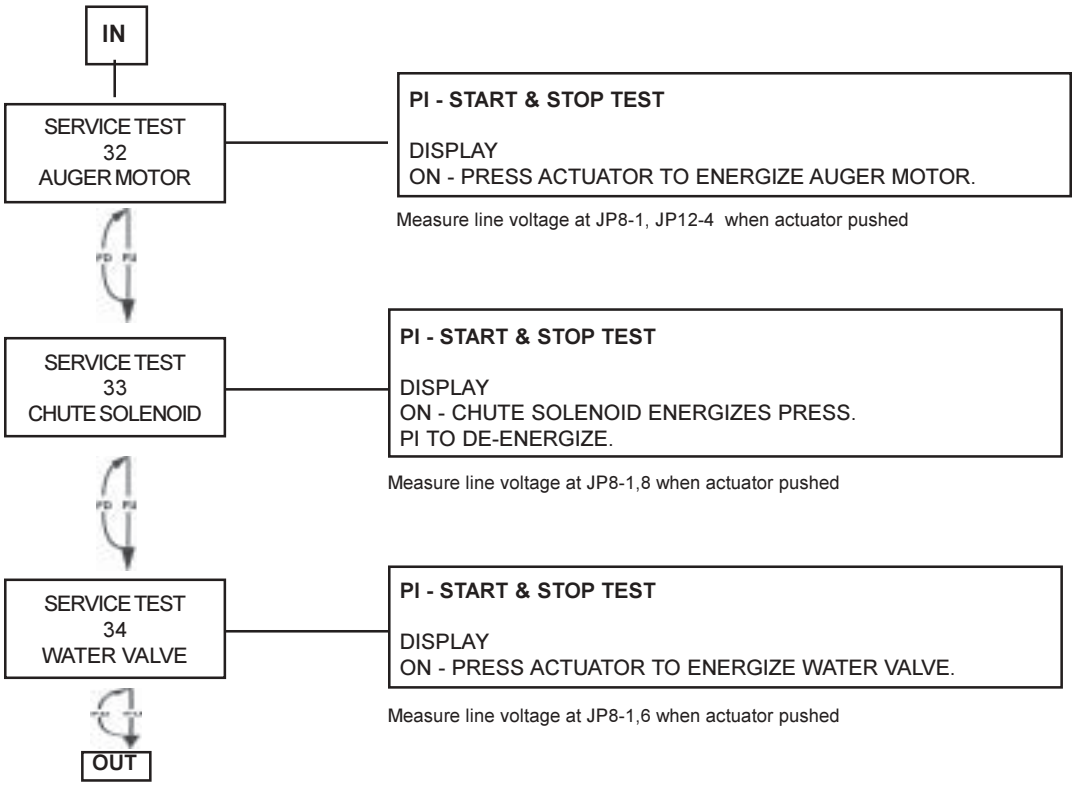
*** See Diagnostic supplied with the product for the latest revision.**


IN
SERVICE TEST 04 FREEZER THERMISTOR
PI - START & STOP TEST
DISPLAY
PA - TEST PASSED
SH - SHORTED THERMISTOR INPUT
OP - OPEN THERMISTOR INPUT
Measure thermistor ohms at connector JP2-1,2. If open or short circuit check thermistor part at terminals in Freezer compartment. If part is good, debug wire harness.
SERVICE TEST 05 EVAPORATOR THERMISTOR
PI - START & STOP TEST
DISPLAY
PA - TEST PASSED
SH - SHORTED THERMISTOR INPUT
OP - OPEN THERMISTOR INPUT
Measure thermistor ohms at connector JP7-18,19. If open or short circuit check thermistor part at terminals in evaporator compartment. If part is good, debug wire harness.
SERVICE TEST 06 AMBIENT THERMISTOR
PI - START & STOP TEST
DISPLAY
PA - TEST PASSED
SH - SHORTED THERMISTOR INPUT
OP - OPEN THERMISTOR INPUT
Measure thermistor ohms at connector JP1-7,8. If open or short circuit check thermistor part at terminals in machine compartment. If part is good, debug wire harness.
SERVICE TEST 07 FRESH FOOD FAN
PI - START & STOP TEST
DISPLAY
PA - TEST PASSED
Hi - FAN TOO FAST
Lo - FAN TOO SLOW
If test fails check for plus 12 VDC JP7-7,5 and plus 8 to 14 VDC JP7-7,6. If voltages exist at control check harness at fan terminals.
SERVICE TEST 08 FREEZER/EVAP FAN
PI - START & STOP TEST
DISPLAY
PA - TEST PASSED
Hi - FAN TOO FAST
Lo - FAN TOO SLOW
If test fails check for plus 12 VDC JP7-3,1 and plus 8 to 14 VDC JP7-3,2.
If voltages exist at control check harness at fan terminals.
SERVICE TEST 09 DAMPER OPEN
PI - Initiate Damper Movement
Upon initiation of this test the damper will immediately begin closing. This takes 7 - 10 seconds and will have to be observed by the service technician.
During 7 to 10 second damper operation 11 VAC can be measured at terminals JP7-9,10 and JP7-11,12.
SERVICE TEST 10 DAMPER CLOSE
PI - Initiate Damper Movement
Upon initiation of this test the damper will immediately begin opening. This takes 7 - 10 seconds and will have to be observed by the service technician.
During 7 to 10 second damper operation 11 VAC can be measured at terminals JP7-9,10 and JP7-11,12.
OUT


IN
SERVICE TEST 11 DEFROST HEATERS
PI - START & STOP TEST
Display will show current evaporator thermistor temperature on right side of display.
If defrost terminator is closed, heaters should energize and evaporator temperature will rise. Approx. 3 amps AC current can be measured on heater lead at main control JP8-1. During test line voltage can be measured at JP8-1,1. Heater resistance can be measured by measuring JP8-1,14 with JP8 removed. Approx. 30 ohms with terminator closed or 240k with terminator open.
SERVICE TEST 12 CONDENSER FAN
PI - START & STOP TEST
DISPLAY
ON - FAN SHOULD BE OPERATING
During test line voltage can be measured at JP8-1,JP13-1.
SERVICE TEST 13 FRESH FOOD LIGHTS
PI - START & STOP TEST
DISPLAY
ON - FRESH FOOD LIGHTS SHOULD BE OPERATING
During test line voltage can be measured at JP8-1, JP12-2.
SERVICE TEST 14 FREEZER LIGHTS
PI - START & STOP TEST
DISPLAY
ON - FREEZER LIGHTS SHOULD BE OPERATING
During test line voltage can be measured at JP8-1, JP12-3.
SERVICE TEST 15 FOUNTAIN LAMP
PI - START & STOP TEST
DISPLAY
ON - FOUNTAIN LAMP SHOULD BE OPERATING
During test line voltage can be measured at JP8-1, 9.
SERVICE TEST 16 COMPRESSOR MAX SPEED
PI - START & STOP TEST
Display will show current evaporator temperature on the last 2 digits of main display.
Evaporator temperature should drop as compressor pulls down. During test approx. 2 VAC can be measured at JP10-1,2. If pump is still not running observe line voltage at compressor inverter input CN 02-1,5 and 230 VAC output at compressor inverter CN 02-1,6. Pump should draw approx. 2 amps AC on line input to inverter. (Compressor must be off for 5 min. prior to initial test.)
SERVICE TEST 17 COMPRESSOR MIN SPEED
PI - START & STOP TEST
Display will show current evaporator temperature.
Evaporator temperature should drop as compressor pulls down. During test approx. 2 VAC can be measured at JP10-1,2. If pump is still not running observe line voltage at compressor inverter input CN 02-1,5 and 230 VAC output at compressor inverter CN 02-1,6. Pump should draw approx. 2 amps AC on line input to inverter. (Compressor must be off for 5 min. prior to initial test.)
OUT


IN
SERVICE TEST 18 FORCE DEFROST
PI - START & STOP TEST
Display will not show test results.
Unit will initiate a defrost, exit service mode, and resume normal operation mode.
SERVICE TEST 19 FRESH FOOD FAN SPEED
PI - START & STOP TEST
DISPLAY SPEED - FAN SHOULD BE OPERATING
Display is in revolutions per second. Range 36 - 42 average.
SERVICE TEST 20 FREEZER FAN SPEED
PI - START & STOP TEST
DISPLAY SPEED - FAN SHOULD BE OPERATING
Display is in revolutions per second. Range 42 - 50 average.
SERVICE TEST 21 FRESH FOOD Thermistor VALUE
PI - START & STOP TEST
DISPLAY Will display fresh food thermistor temperature. (e.g. 13 72 is 137.2 degrees.)
Ensure that temperature is in appropriate range.
SERVICE TEST 22 FREEZER Thermistor VALUE
PI - START & STOP TEST
DISPLAY Will display fresh food thermistor temperature. (e.g. 13 72 is 137.2 degrees.)
Ensure that temperature is in appropriate range.
SERVICE TEST 23 AMBIENT Thermistor VALUE
PI - START & STOP TEST
DISPLAY Will display fresh food thermistor temperature. (e.g. 13 72 is 137.2 degrees.)
Ensure that temperature is in appropriate range.
SERVICE TEST 24 EVAPORATOR Thermistor VALUE
PI - START & STOP TEST
DISPLAY Will display fresh food thermistor temperature. (e.g. 13 72 is 137.2 degrees.)
Ensure that temperature is in appropriate range.
OUT


IN
SERVICE TEST 25 DELETED
SERVICE TEST 26 DISPLAY TEMPERATURE SELECT
PI - START & STOP TEST
DISPLAY
°F = Fahrenheit
°C = Centigrade
Temperature select switch in °C check for 5 V on JP6-1,2.
°F check for 0 V on JP6- 1,2.
SERVICE TEST 27 FOUNTAIN STATE
PI - START & STOP TEST
DISPLAY
Ho = Water
cs = Crush
cu = Cube
Lo = Lock
If display does not change. Verify communications by removing tape from FF door switch. HPSC's should light.
SERVICE TEST 28 BY-PASS VALVE SWITCH
PI - START & STOP TEST
DISPLAY
in = By Pass in
ou = By Pass out
Verify 26 V on JP13-1 remove By Pass.
Verify 0 V on JP13-1
SERVICE TEST 29 FILTER VALVE SWITCH
PI - START & STOP TEST
DISPLAY
in = Filter in
ou = Filter out
Filter in 26 V on JP13-2 remove filter.
0 V on JP13-2
SERVICE TEST 30 ACTUATOR TEST
PI - START & STOP TEST
DISPLAY
on = Pushed
of = Released
Measure line voltage at JP8-1,3 when actuator pushed
SERVICE TEST 31 CUBE SOLENOID
PI - START & STOP TEST
DISPLAY
ON - PRESS ACTUATOR TO ENERGIZE
CUBE SOLENOID.
Measure line voltage at JP8-1,7 when actuator pushed
OUT


IN
SERVICE TEST
32
AUGER MOTOR
PI - START & STOP TEST
DISPLAY
ON - PRESS ACTUATOR TO ENERGIZE AUGER MOTOR.
Measure line voltage at JP8-1, JP12-4 when actuator pushed
SERVICE TEST
33
CHUTE SOLENOID
PI - START & STOP TEST
DISPLAY
ON - CHUTE SOLENOID ENERGIZES PRESS.
PI TO DE-ENERGIZE.
Measure line voltage at JP8-1,8 when actuator pushed
SERVICE TEST
34
WATER VALVE
PI - START & STOP TEST
DISPLAY
ON - PRESS ACTUATOR TO ENERGIZE WATER VALVE.
Measure line voltage at JP8-1,6 when actuator pushed
OUT

Appendix A

USER GUIDE

Form No. A/05/02 Part No. 111405-1 MCS p/n 61005583 Litho U.S.A. ©2002 Maytag Appliances Sales Co.

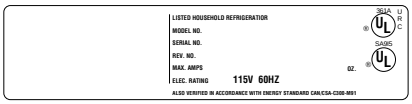
Welcome

Welcome and congratulations on your purchase of a Jenn-Air® Luxury™ Series Built-In refrigerator!

Your complete satisfaction is very important to us. For best results, we suggest reading this material to help acquaint you with proper operating and maintenance procedures.

Should you need assistance in the future, it is helpful to:

1. Have complete model and serial number recorded in the spaces below. These numbers are found on a data plate inside the refrigerator compartment on the upper trim surface.



Date of Purchase _____

Model Number _____

Serial Number _____

2. ***IMPORTANT: Keep this guide and the sales receipt in a safe place for future reference. Proof of original purchase date is needed for warranty service.***

If you have questions, call:

Jenn-Air Customer Assistance
1-866-459-6298 (USA and Canada)
(Mon.–Fri., 8am–8pm Eastern Time)
Internet: http://www.jennair.com

For service and warranty information, see page 25.

In our continuing effort to improve the quality of our appliances, it may be necessary to make changes to the appliance without revising this guide.

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What You Need to Know About Safety Instructions

Warning and Important Safety Instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when installing, maintaining or operating the appliance.

Always contact your dealer, distributor, service agent or manufacturer about problems or conditions you do not understand.

Recognize Safety Symbols, Words, Labels

⚠ ***WARNING:*** Hazards or unsafe practices which **COULD** result in severe personal injury or death.

⚠ ***CAUTION:*** Hazards or unsafe practices which **COULD** result in minor personal injury.

SAVE THESE INSTRUCTIONS

IMPORTANT SAFETY INSTRUCTIONS

⚠ WARNING: *When using your appliance, always follow basic precautions, including the following:*

- Use the refrigerator only for its intended purpose.
- To prevent possibility of hazard due to electrical shock, never plug the refrigerator into a receptacle which has not been grounded adequately and in accordance with the local and national electrical codes. See the ⚠ warning and grounding instructions.
- This refrigerator must be properly installed in accordance with its installation instructions.
- Turn the power to your refrigerator off before cleaning or replacing light bulbs.
- In case of power failure, minimize door openings. If the power failure is of a long duration, protect the food by placing blocks of dry ice on top of the packages or check with a local frozen foods locker about temporary storage. Frozen foods which have thawed completely should not be refrozen and should be discarded.
- Any electrical service cord that becomes frayed or damaged should be immediately repaired or replaced. Never unplug your appliance by pulling on the power cord.
- Your refrigerator should not be operated in the presence of explosive fumes.
- Children should not climb, hang or stand on the shelves of this refrigerator.
- To prevent the unit from tipping forward and to provide a stable installation, the unit must be secured in place with the anti-tip device (See separate installation instructions provided with this refrigerator).

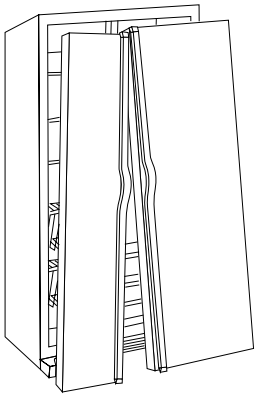
NOTE:

The power pad in the fresh food compartment stops cooling and turns off the lights. It does not shut power to the unit off. Prior to changing light bulbs or other servicing, the Main Power switch in the upper machine compartment must be switched to **OFF** or **"O"**.

IMPORTANT:

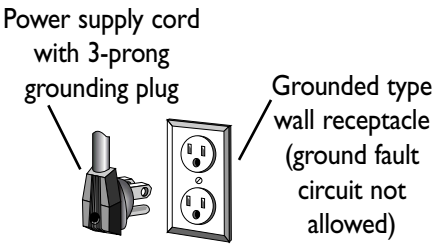
Child entrapment and suffocation are not problems of the past. Junked or abandoned refrigerators are still dangerous…even if they will sit for "just a few days." If you are getting rid of your old refrigerator, please follow the instructions below to help prevent accidents.

- Take off the doors.
- Leave the shelves in place so that children may not easily climb inside.



⚠ WARNING: *This appliance is designed to operate on a normal 115 volt, 15 amp, 60 cycle line. There should be a separate, grounded circuit serving this appliance only. Do not use an extension cord. Do not use any device that will alter the electrical performance of this appliance.*

This appliance is equipped with a three-pronged grounding plug for your protection against possible electrical shock hazards. It must be plugged into a grounded receptacle. Where a standard two-prong wall receptacle is encountered, it is the personal responsibility and obligation of the customer to have it replaced with a properly grounded three-prong wall receptacle. Do not, under any circumstances, cut or remove the third (ground) prong from the power cord. Do not use an adapter plug. Do not use an extension cord. Do not use a Ground Fault Circuit Interrupter.



SAVE THESE INSTRUCTIONS

INSTALLATION

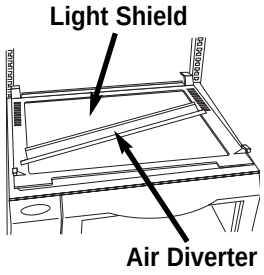
For complete directions on proper installation of this refrigerator, please refer to the separate installation instructions provided.

IMPORTANT:

- Make sure the floor under the refrigerator is level with the surrounding finished floor.
- Protect a finished floor with plywood, cardboard or other suitable material before moving the refrigerator across it.
- Once installed, this built-in refrigerator is not designed to be moved. For information on moving, refer to installation instructions or call toll free 1-866-459-6298.

LIGHT SHIELD

The Light Shield and ClimateZone™ Air Diverter come packaged on the lowest refrigerator shelf.

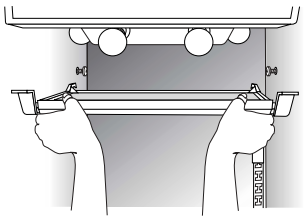


NOTE:

Install the fresh food and freezer light shields according to the following instructions.

TO INSTALL THE LIGHT SHIELDS:

1. Place the plastic hooks in the rear corners of the shield over the screws located in the sidewalls.



2. While depressing the front catches, raise the shield up to the bottom of the control panel.
3. Release the catches so they rest above the back edge of the control panel bottom.

TO REMOVE:

1. Depress the catches at the front of the shield.
2. Swing the shield downward.
3. Lift the plastic hooks from the screws and pull the shield straight out.

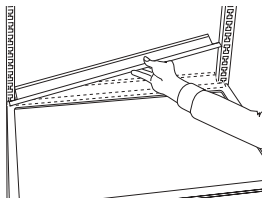
CLIMATEZONE™ AIR DIVERTER

IMPORTANT:

The Air Diverter must be installed correctly to ensure efficient operation of the ClimateZone™ storage drawers.

TO INSTALL:

Place the tabs on each end of the diverter in front of the shelf support rails and lower into place.



CLIMATEZONE™ DRAWERS

Remove the shipping foam piece packed in the **top** of the ClimateZone™ drawer before operating the refrigerator.

REMOVE SHIPPING CLIPS

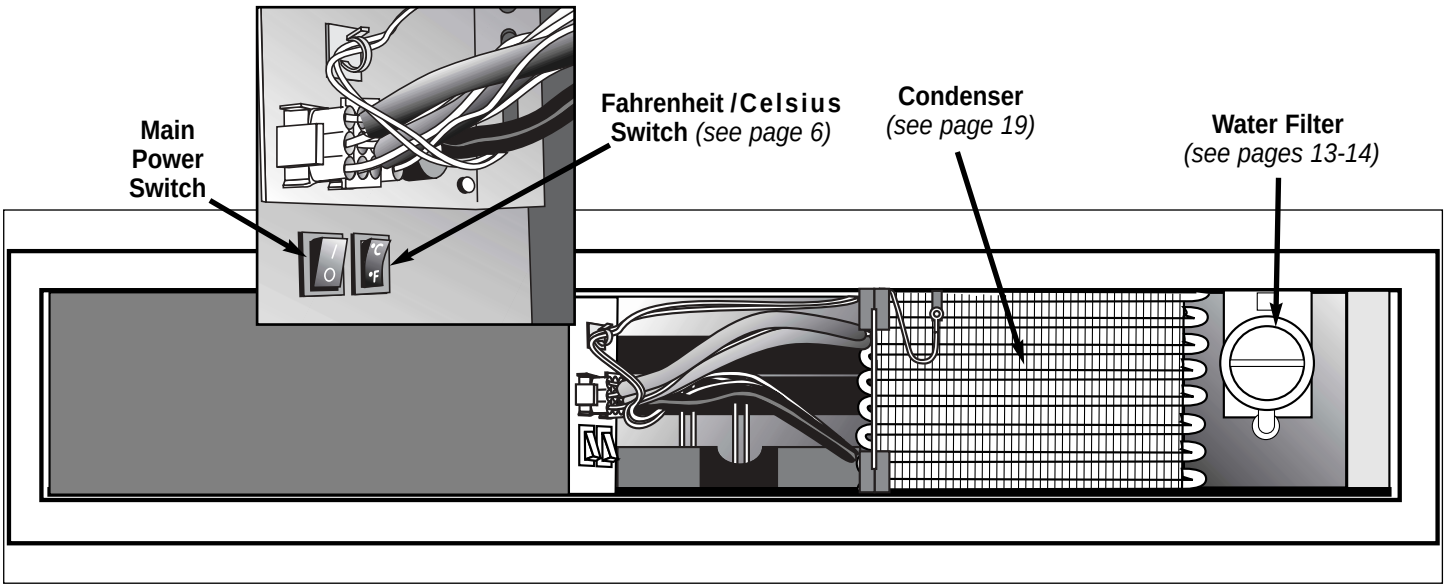
Your new refrigerator was packed carefully for shipment. The shelf packing clips, located in the frame above each shelf, must be removed prior to rearranging the shelves in the refrigerator.

To remove: Depress the upper part of the clip, wiggle the clip sideways and pull straight out.

MACHINE COMPARTMENT

The Machine Compartment is located at the top of the refrigerator. Within the Machine Compartment are the main power switch, the water filter, the condenser and a switch to change the electronic control from Fahrenheit to Celsius.

> **NOTE:**
>
> DO NOT remove the foam pieces from the machine compartment cover or the condenser.



TO REMOVE THE MACHINE COMPARTMENT COVER:

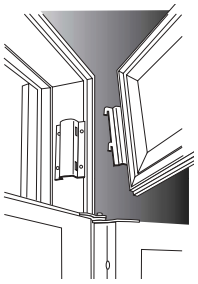
Grasp the cover on the outer edges and lift up, then out and off. Set the cover aside.

TO REPLACE THE MACHINE COMPARTMENT COVER:

Tilt the top of the cover forward slightly and insert the top set of hooks into their matching slots.

Follow by inserting the bottom set of hooks into their appropriate slots.

When the hooks are fully inserted, the cover securely settles into place.



ELECTRONIC CONTROL CENTER

The electronic control center is located at the top of the fresh food compartment.

> **NOTE:**
>
> Allow the refrigerator to run for 8-12 hours before loading. This ensures appropriate temperatures for food storage.

UNIT POWER

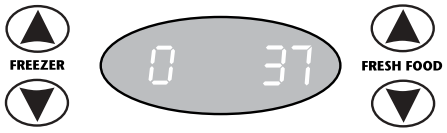
Touch this pad to start or stop cooling and turn off the lights in both the fresh food and freezer compartments. This pad DOES NOT shut off power to the refrigerator.

To turn off all power to the refrigerator, turn the Main Power switch **OFF** or **"O"** (see page 4).

> **IMPORTANT:**
>
> Turn off all power to the refrigerator at the main power switch whenever changing light bulbs, cleaning or servicing this refrigerator.

INITIAL TEMPERATURE SETTINGS

Temperatures are preset at 37° F (3° C) in the fresh food compartment and 0° (-18° C) in the freezer compartment. The display will show the average compartment temperatures, based on several measurement points within the compartment.



> **NOTE:**
>
> Temperatures displayed may vary from set point due to door openings or during defrost.

> **NOTE:**
>
> Thermometers placed in the refrigerator may record a temperature slightly above or below the displayed temperature. This is normal as the displayed temperature is an average.

TEMPERATURE ADJUSTMENTS

- Allow the temperature to stabilize for 24 hours after loading the refrigerator before making any temperature adjustments.
- The first touch of the up or down arrow shows the current temperature setpoint.
- Subsequent touches of the ▲ pad raise the temperature set point or the ▼ pad lowers the temperature set point.
- The display will show the new setpoint for approximately three seconds, then return to the actual temperature currently within that compartment.
- Limit temperature changes to one degree at a time. Allow the new temperatures to stabilize for 24 hours before making a new temperature adjustment.

DOOR ALARM

The Door Alarm will alert you when one of the doors has been left open for 10 continuous minutes. When this happens, the compartment light will go out and a chime will sound every few seconds until the door is closed or the Door Alarm pad is pressed to deactivate the function.

- Press the Door Alarm pad to activate. A chime will sound and ON will illuminate.
- Press the Door Alarm pad again to deactivate.
- When the alarm has sounded, close door to reset.

  OR

- Press the Door Alarm pad to deactivate. Press again to reactivate, if desired.

WATER FILTER

- **WORKING** is illuminated when a water filter has been installed. It will not illuminate when the filter bypass is in place (see page 13 for information on installation of the water filter or bypass).
- **ORDER** will illuminate when 90 percent of the volume of water for which the filter is rated has passed through the filter.

  OR

  Eleven months have elapsed since the filter has been installed.
- **REPLACE** illuminates when the rated volume of water has passed through the filter or 12 months have elapsed since the filter was installed. A new filter should be installed immediately when **REPLACE** is illuminated.

When the new filter is installed, the **WORKING** light will reilluminate. See page 13.

> **NOTE:**
>
> Power to the refrigerator must be **ON** when the filter is changed for the water filter monitoring system to reset and change back to the "WORKING" indicator.

Power Interrupt

When enabled, Power Interrupt will record and display the highest temperature reached in the fresh food and freezer compartments during a power outage. If an outage has occurred, the display will alternately show the current compartment temperatures and the highest compartment temperatures reached when the power was out.

- Touch the **RESET** pad to enable this feature. The **RESET** pad will illuminate.
- After a power outage or interruption, touch the **RESET** pad once to resume displaying the current compartment temperature.
- The **RESET** pad will continue to be illuminated and enabled.
- Touching the **RESET** pad a second time will turn off this function and the pad will not be illuminated.

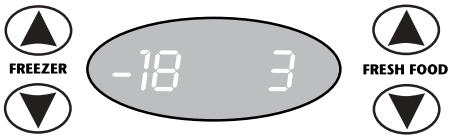
> ***NOTE:***
>
> Frozen foods which have thawed completely should not be refrozen. Discard these items. Fresh, perishable items stored above 40° for two hours or longer should also be discarded.

Fahrenheit/Celsius Display

The control can be changed to display temperatures in either degrees Fahrenheit or degrees Celsius.

- Open the machine compartment at the top of the refrigerator (see page 4).
- Set the switch to the desired mode - °C or °F.

All temperature displays will change to the selected mode, including the ClimateZone™ drawer displays.



FRESH FOOD COMPARTMENT

SHELVES

The Fresh Food Compartment is equipped with Standard Adjustable Shelves and/or Elevator™ Shelves (features may vary by model).

Both shelf styles feature a spill retainer edge. They also slide out for easier access to items stored at the rear of the shelf.

To slide out, grasp the front of the shelf and pull. Gently push in to return the shelf back to its original position.

STANDARD ADJUSTABLE SHELVES

TO REMOVE OR ADJUST:

- Completely unload the shelf.
- Lift up the rear of the shelf slightly.
- Pull the shelf straight out.

TO LOCK SHELF INTO ANOTHER POSITION:

- Tilt up the front edge of the shelf.
- Lift up the rear of the shelf.
- Insert the hooks into the desired frame openings.
- Let the shelf settle into place.
- Be sure the shelf is level and securely locked at the rear before reloading it.

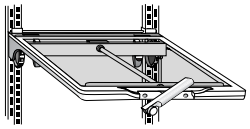
ELEVATOR™ SHELF

The Elevator™ shelf can be adjusted up or down without being unloaded.

To adjust the height, pull out the knob on the handle built into the shelf front. Turn the handle clockwise to raise the shelf and counterclockwise to lower the height of the shelf.

TO REMOVE SHELF FOR OCCASIONAL CLEANING:

- Completely unload the shelf.
- Partially slide the shelf out.



- Push up the tabs under the outside edges of the shelf behind the front bracket and continue pulling the shelf out, until it clears frame.

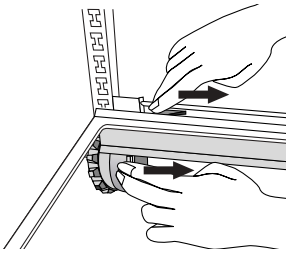
TO REINSTALL:

- Align the shelf into the guides on the frame.
- Push the shelf all the way back. (It is not necessary to push up the tabs for reinstallation).

In ordinary use, the Elevator™ shelf frame assembly does NOT require removal.

In the unlikely event that the assembly needs to be removed, it is important to follow the correct removal procedure.

TO REMOVE THE FRAME ASSEMBLY:



- Unload the shelf completely.
- Slide the shelf forward about two inches (6 cm). Manually move the two rear latches toward the shelf center.
- While supporting the entire shelf and frame from underneath, lift slightly and rotate the assembly approximately 30° to allow the rear mechanism to clear the rear rails.

The entire assembly can then be moved forward and clear of the refrigerator compartment.

To reinstall, reverse the removal procedure. Be sure the shelf is in a level position. When the sliding shelf is pushed to the rear, the rear latches will reposition to their correct operating position.

NOTE: To remove the entire compartment assembly surrounding the ClimateZone™ drawers, refer to page 19.

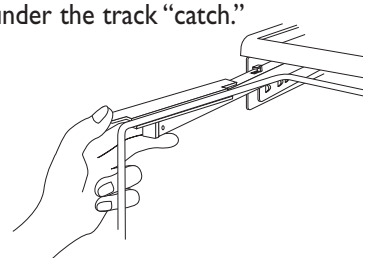
A LA CARTE STORAGE DRAWER

TO REMOVE:

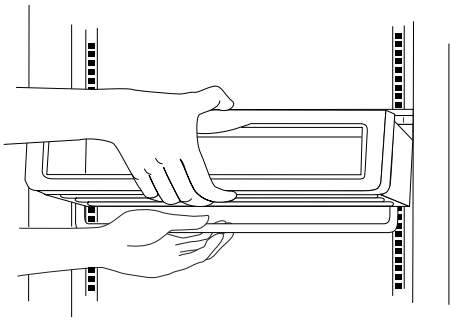
- Pull the drawer out until it stops.
- Tilt the drawer up and pull it out.

TO REINSTALL:

- Slide the empty drawer bracket back on the track until the bracket tab slips under the track "catch."



- Hold on to the lower bar support.



- Tilt the drawer front up, slide the drawer back into place (until the bar rests in the slot at the bottom front of the drawer).
- Close the drawer.

TO REMOVE THE STORAGE DRAWER FRAME:

- Remove drawer.
- Lift up the rear of the frame slightly.
- Pull the frame straight out.

TO MOVE THE DRAWER FRAME TO ANOTHER POSITION:

- Insert the rear hooks into the desired openings.
- Let the frame settle into place.
- Be sure the frame is level and securely locked at the rear before putting the drawer back in.

CLIMATEZONE™ STORAGE DRAWERS

The two lower drawers in the fresh food compartment are equipped with ClimateZone™ Technology. This technology allows the temperature within each drawer to be tightly controlled for storing meats, fresh produce or citrus.

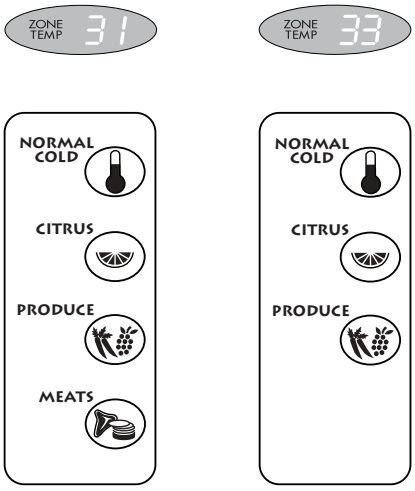
The electronic temperature control within these drawers provides preset temperatures, based on the food group that is selected. The actual temperature within each ClimateZone™ drawer is displayed electronically. Each setting provides temperatures in the range outlined in the chart below.

Selection	Temperature Set Point	Temperature Display Range*
Normal	None	The display is blank
Citrus	38° F (3° C)	37 - 39° F (3 - 4° C)
Produce	34° F (1° C)	33 - 35° F (1 - 2° C)
Meats	31° F (-1° C)	30 - 32° F (-1 - 0°C)

* Varying factors such as environment, drawer openings, refrigerator control settings, etc. may cause the temperature display on the drawer to fluctuate outside the range of temperatures listed above. This is normal. For best results, set the fresh food compartment to 37 ° F (3° C) and the freezer compartment to 0° F (-18° C).

NOTE:

The Normal Cold setting turns off the ClimateZone™ Technology, The drawer then operates as a standard crisper.



ClimateZone™ Drawer Settings

The MEATS setting is recommended whenever storing fresh meat, poultry and fish. Store meats in airtight containers or sealed bags to contain any juices. Clean up spills immediately, then disinfect.

Select the PRODUCE setting when storing a mixed load of fresh fruits and vegetables, such as:

Apples	Broccoli
Green onions	Asparagus
Nectarines	Kiwi fruit
Radishes	Spinach
Cabbage	Celery
Romaine	Leeks
Carrots	Cherries
Herbs	Lettuce
Strawberries	bagged, pre-cut
Cauliflower	salads and
Peaches	vegetables

Select the CITRUS setting when storing fruits such as oranges, grapefruit, lemons, limes, pineapple, cranberries, watermelons and tangerines.

Fruits and vegetables can be stored loosely wrapped or unwrapped.

Fruits with skins such as apples and grapes should not be stored in airtight bags or containers.

NOTES:

- After prolonged or repeated drawer openings and/or loading the drawers, the displayed temperature may rise. This is normal. The temperature will recover in a short period of time.
- When meat is being refrigerated for the purpose of thawing, it should be stored in a pan with sides or a sealed bag or container, on a refrigerator shelf. Frozen meats will thaw very slowly when stored in the ClimateZone™ drawer on the "Meats" setting.
- Under heavy usage conditions, the exterior surfaces of the ClimateZone™ drawers may fog. This is normal. The condensation will clear once the door is closed for a period of time.
- Due to the accuracy and the location of the ClimateZone™ temperature sensor system, drawer temperatures measured with household thermometers may vary slightly from the digital display. This is normal.

TO REMOVE CLIMATEZONE™ STORAGE DRAWERS:

- Pull drawer out until it stops.
- Lift front edge and pull all the way out.

TO REPLACE CLIMATEZONE™ STORAGE DRAWERS:

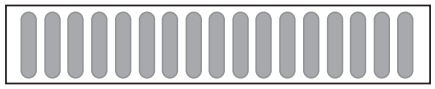
- Set drawer on side tracks.
- Slide drawer in until the bar rests in slot on underside of drawer front.
- Close the drawer.

CLIMATEZONE™ STORAGE DRAWERS, CONT.

Automatic Humidity Control

The ClimateZone™ drawers are equipped with Automatic Humidity Control, eliminating the need for manual humidity slide controls.

A fabric-like material* covers small air vents in the drawer housing above the crispers. This material controls the flow of moisture vapor out of the crisper. If a food spill should occur on the air vent or fabric-like material, wipe with a clean, damp cloth.



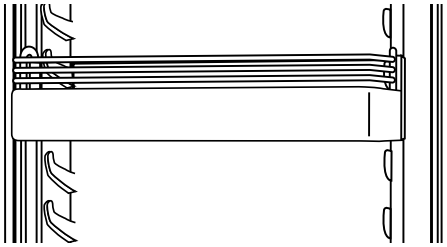
*The Automatic Humidity Control system features a unique, patented material called Shape Memory Polymer (SMP) that when laminated to fabric, becomes DIAPLEX. DIAPLEX is manufactured by Mitsubishi.

DiAPLEX
The Intelligent Texture

DOOR STORAGE

Adjustable Door Bins

(Fresh Food and Freezer)



The door bins can be moved to best suit your storage needs.

TO REMOVE:

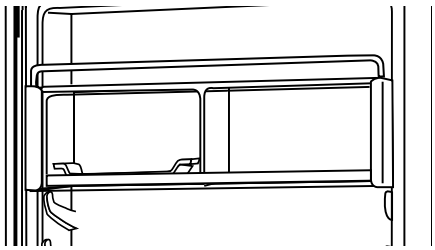
- Lift the bin up until it clears the retainers on the door liner.
- Pull the bin straight out.
- Reverse this procedure to secure the bin into another position on the door.

⚠ *CAUTION:*

DO NOT remove the pick-off door bins or the dairy compartment by grasping the chrome trim.

Dairy Compartment

(Fresh Food Compartment)



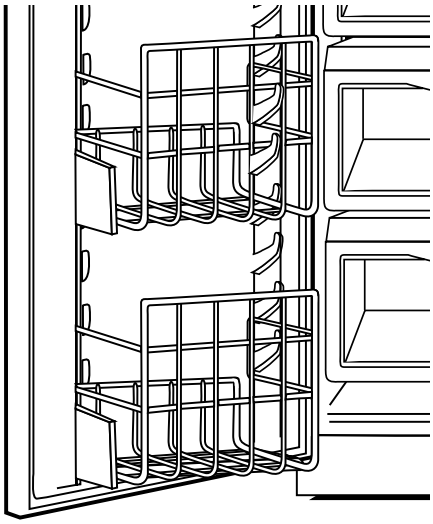
The dairy compartment, designed for storing spreadables such as butter or margarine, can be moved to other locations on the fresh food door.

TO MOVE:

- Lift the compartment up until it clears the retainers on the door liner.
- Pull the compartment straight out.
- Reverse this procedure to secure the compartment into another position on the door.

Drop Down Door Baskets

(Freezer Compartment)



Drop down door baskets provide convenient storage for items that tend to shift or slide, such as bagged vegetables or coffee.

These baskets are also adjustable in the same manner as the door bins.

FREEZER COMPARTMENT

Adjustable Wire Shelves

TO REMOVE WIRE SHELVES:

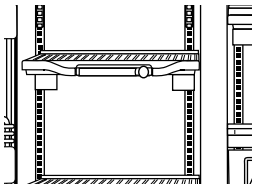
- Completely unload the shelf or remove basket.
- Lift up the rear of the shelf slightly.
- Pull the shelf straight out.

TO LOCK THE SHELF INTO ANOTHER POSITION:

- Tilt up the front edge of the shelf.
- Lift up the rear of the shelf.
- Insert the hooks into the desired frame openings.
- Let the shelf settle into place.

Be sure the shelf is level and securely locked at the rear before reloading it with food.

Freezer Elevator™ Shelf



This shelf can be adjusted up or down without being unloaded.

To adjust the height, pull out the knob on the handle built into the shelf front. Turn the handle clockwise to raise the shelf and counterclockwise to lower the height of the shelf.

TO REMOVE SHELF:

- Completely unload the shelf.
- Slide the shelf out until it stops.
- Push up the tabs under the outside edges of the shelf behind the bracket and continue pulling the shelf out, clear of the frame.

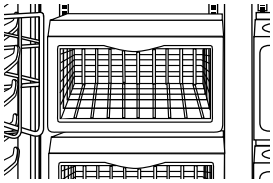
TO REINSTALL SHELF:

- Align the shelf into the guides on the frame.
- Push the shelf all the way back. (It is not necessary to push up the tabs for reinstallation).

In ordinary use, the Elevator™ shelf frame assembly does NOT require removal.

In the unlikely event that the assembly needs removal, it is important to follow the correct removal procedure. See page 7.

Wire Freezer Baskets



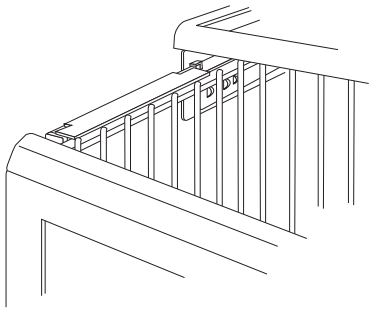
To load or retrieve items from a freezer basket, pull the drawer forward.

TO REMOVE:

- Pull out the drawer out until it stops.
- Tilt up the front of the basket.
- Lift it completely out.

TO REPLACE:

- Place basket on extended tracks.
- Place tabs on basket sides under tabs on track. Drawers should sit flat on track.
- Push drawer all the way in.



Ice Drawer

(Non-dispenser Models)

The automatic icemaker keeps this drawer stocked with ice. To retrieve ice, pull open the drawer.

TO REMOVE:

- Pull out the drawer until it stops.
- Reach into the drawer compartment and move the wire lever arm on the icemaker into the up **(OFF)** position.
- Lift the front of the drawer up.
- Pull the drawer completely out.

TO REINSTALL:

- Align the drawer sides onto the matching side rails.
- Reach into the drawer compartment and move the wire lever arm on the icemaker into the down **(ON)** position.
- Push the drawer in.

AUTOMATIC ICEMAKER

After the refrigerator has been connected to the water supply, move the wire lever arm on the icemaker into the down **(ON)** position to start its operation. The icemaker will fill with water when the freezer reaches the proper temperature. It may be 8 to 12 hours before the icemaker furnishes any usable ice cubes.

Discard all the cubes from the first two or three batches made. These initial ice cubes may be irregularly shaped, discolored, or contain impurities from the new water supply piping.

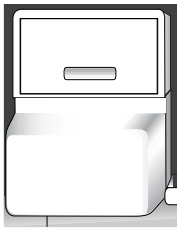
When the ice cubes are ejected it is normal for several cubes to be joined together at the ends. They can easily be broken apart. The icemaker will continue to make ice until the supply of ice cubes raises the wire lever arm, shutting the icemaker off.

To manually stop the operation of the icemaker, move the wire lever arm into the up **(OFF)** position.

Certain sounds may accompany the various cycles of the icemaker.

- buzzing of the water valve
- running of the water as the tray fills
- rattling of the ice cubes falling into an empty ice bin.

If the ice is not used frequently, the ice cubes will become cloudy, shrink, stick together and taste stale. Empty the ice storage bin periodically and wash it in lukewarm water. Rinse and dry thoroughly.

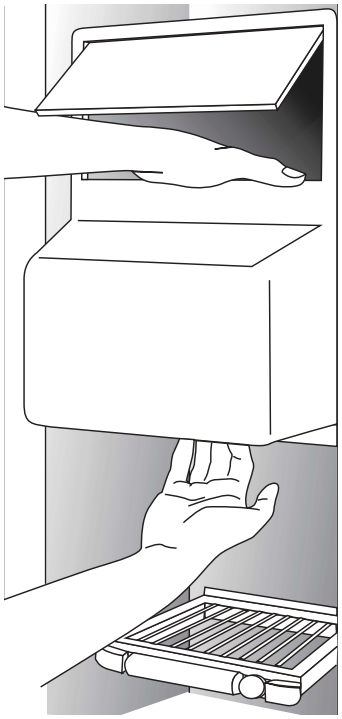


Ice Bin

To check the ice level or gain access to the ice bin, lift the door on the bin.

TO REMOVE THE BIN:

- Turn off the icemaker by moving the icemaker wire lever arm up to the **OFF** position.
- While holding the top edge of the ice bin, grasp the lower edge of the ice bin and pull down to release the latch, then pull ice bin out.
- Reverse procedure to replace the ice bin.
- Turn the icemaker on by lowering the wire lever arm.



⚠ CAUTION:

- Do not place fingers or hands on the automatic ice making mechanism while the refrigerator is plugged in.
- Under certain rare circumstances, ice cubes may be discolored, usually appearing with a green-bluish hue. The cause of this unusual discoloration is a combination of factors such as certain characteristics of local water, household plumbing and the accumulation of copper salts in an inactive water supply line which feeds the icemaker.

  Continued consumption of such discolored ice cubes may be injurious to health. If such discoloration is observed, discard the ice cubes and contact your local water utility or water treatment company.

NOTE:

Beverages and foods should NOT be placed in the ice storage bin for quick chilling. These items can block the wire lever arm, causing the icemaker to malfunction.

AUTOMATIC ICE AND WATER DISPENSER
(SELECT MODELS)

Dispensing Water and Ice

NOTES:

- When using the ice dispenser for the first time, discard the first two or three dozen cubes.
- When using the water dispenser for the first time, press the actuator pad for ten minutes to bleed the air from the water line. Discard the first five to six glasses of water dispensed. This will ensure pure and fresh water for drinking.

To dispense ice or water, position a glass against the top portion of the actuator pad and press. Hold the glass up to the ice opening to avoid spills.

To stop dispensing, release the pressure on the actuator pad and hold the container in position momentarily to catch the last pieces of ice or the last drops of water. The ice delivery door will remain open for a short time. When it closes, a closing sound can be heard.

Crush, Cube, Water Pads

CRUSH CUBE WATER

The control pads are located on the dispenser control panel. To select the desired function, touch the appropriate pad. When ice cubes, crushed ice or water pads are touched the selection is illuminated.

Dispenser Light

When the actuator pad is touched, the dispenser light automatically illuminates. To manually turn the light on, touch the pad.

To turn the light off, touch the pad again.

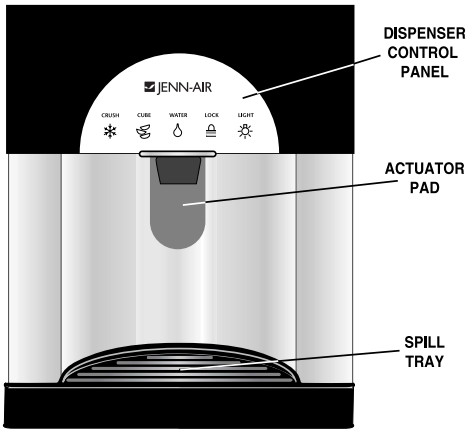
Dispenser Lock

To interrupt power to the water and ice dispenser so it cannot be used, touch the pad 3 times within 10 seconds.

The lock pad is illuminated when the dispenser is locked. Touch the pad 3 times within 10 seconds again to unlock the ice and water service.

Spill Tray

DO NOT pour water into the Spill Tray grille at the bottom of the dispenser area. This is a spill area, **NOT** a drain. Normal, small spills will evaporate. Larger spills should be wiped up with a soft cloth or sponge. The grille slides out for clean up. It is recommended to clean the spill area occasionally to prevent mineral deposits.



ICE AND WATER DISPENSING TIPS

- Some crushed ice may be dispensed even though cubed ice was selected. This happens occasionally when a few cubes are accidentally channeled into the crusher.
- Likewise, when changing from crushed ice to cubes, some crushed ice may be dispensed. This may also happen if irregular-sized cubes or ice chips are in the storage bin.
- If the "crushed" option is used frequently or exclusively, select the "cube" option occasionally to clear any crushed ice that may have built up in the chute.
- A slight pause may be noticed when dispensing crushed ice. This is normal because the ice is being channeled to the crusher. Crushed ice pieces will vary in size and shape.
- If the ice dispenser is not used frequently, ice cubes may clump together and may need to be broken apart or discarded.
- Do not add ice to the storage bin which was not produced by the icemaker. It may not crush and/or dispense properly.
- Avoid operating the ice dispenser continuously for more than five minutes. Remove large quantities from the bin by hand.
- Avoid dispensing ice directly into fine china or delicate crystal. The pressure of pressing against the actuator pad and the ice dropping into the container can cause cracking or chipping of delicate items.
- Water from the dispenser is not as cold as ice water. The first glass or two of water dispensed each time may be warmer than subsequent glasses.
- To avoid splashing, fill the glass with ice before adding water.

WATER FILTER

Initial Filter Cartridge Installation

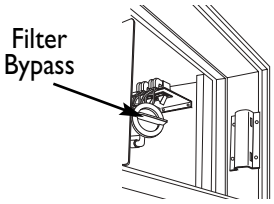
The water filter mounts in the machine compartment above the refrigerator.

Your refrigerator was delivered from the factory with a filter bypass in place. If the filter was not installed for you when the refrigerator was installed, the filter cartridge can be found packaged inside of the refrigerator. It can be easily installed without using any additional parts, screws or fasteners.

If the home is equipped with a Reverse Osmosis water treatment system, this additional water filter is not necessary. The filter bypass should remain installed.

IMPORTANT:

- In order for the water filter monitor system to be set, power to the unit must be **ON** when a new filter is installed.



1. Remove the machine compartment cover (see page 4).
2. Twist the filter bypass cap ¼ turn counter-clockwise to disengage. Remove the filter bypass from the filter head apparatus.

NOTES:

- The filter bypass or water filter must be in place or no water or ice will be dispensed.
- **DO NOT** dispose of the filter bypass. It should be stored for future use, in the event that you choose to use the water and ice dispenser without a filter.

3. Carefully remove the filter from its packaging.
4. Remove the red cap from the filter.
5. Lubricate the O-ring with food-grade vegetable oil.
6. Line up the cartridge ears so it can be inserted into the filter head. Rotate the cartridge into the head. Twist the cartridge ¼ turn clockwise to lock it into place. You will feel a stop.
7. Dispense water through the dispenser for 10 minutes to flush away any loose particles.
8. Carefully check for leaks.

Replacing the Filter Cartridge

1. Twist the filter cartridge ¼ turn counterclockwise to disengage from the head. Twist gently until the cartridge is free from the head, but DO NOT pull.
2. Carefully remove the replacement filter from its packaging.
3. Follow steps 4 through 8 under Initial Filter Cartridge Installation.

NOTE:

Filter life may be affected by abnormal feed water conditions or unusual incidents such as hydrant flushes, reservoir turnover or varying local water conditions.

Periods of Non-Use

If the refrigerator has been out of use or ice and water have not been dispensed for more than 2 weeks, the filter should be replaced when the refrigerator is put back into service.

Special Notices

It is essential that operation, maintenance and filter replacement requirements be carried out as scheduled. This product is for cold-water use only.

Do not use with water that is microbiologically unsafe, or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.

For your own knowledge and safety, it is recommended that your water quality be periodically tested.

The contaminants or other substances removed or reduced by this water treatment system are not necessarily in your water. The feed water connection must conform to applicable plumbing codes.

NOTE:

A newly installed water filter cartridge may cause water to temporarily spurt from the dispenser.

REPLACEMENT FILTER CARTRIDGES

For replacement filter cartridges or for service, contact your local dealer or Maytag Appliance Sales Company, Jenn-Air Customer Assistance, 1-866-459-6298 (USA and Canada)

Replacement Filter Model Number:

UKF7002AXX - Taste, odor, chlorine, cysts and lead

The PuriClean™ water filter is manufactured for Maytag Appliances by:

Cuno Incorporated
400 Research Parkway
Meriden, CT 06450

Rated Flow:	.5 gpm (1.9 L)
Min. Op. Temp:	33° F (.6° C)
Max. Op. Temp:	100° F (38° C)
Min. Op. Press:	30 psi (207 Kpa)
Max. Op. Press:	125 psi (862 Kpa)

The filter listed below has been tested and certified to NSF International under ANSI/NSF Standards 42 and 53 for the reduction of impurities as indicated:

	UKF7002AXX
Taste/Odor	Yes
Chlorine Class I Std.42	Yes
Turbidity Std. 53	Yes
Particulate Std. 42	Yes (Class I)
Cyst Std. 53	Yes
Lead Std. 53	Yes
Capacity	416 gal. (1574 L)
Function	Chemical/ Mechanical

See accompanying Product Data Sheet for further information on filters.

State of California
Department of Health Services

Water Treatment Device Certificate Number 99 - 1408

Date Issued: December 14, 1999

Trademark/Model Designation: Maytag PuriClean UKF 7002 AXX

Replacement Elements: UKF 7002 AXX

Manufacturer: Cuno, Inc.

The water treatment device(s) listed on this certificate have met the testing requirements pursuant to Section 116830 of the Health and Safety Code for the following health related contaminants:

Microbiological Contaminants and Turbidity
Cysts (protozoan)
Turbidity

Inoganic/Radiological Contaminants
Lead

Organic Contaminants
None

Rated Service Capacity: 416 gallons

Rated Service Flow: 0.5 gpm

Do not use where water is microbiologically unsafe or with water of unknown quality, except that systems claiming cyst reduction may be used on water containing cysts.

FOOD PURCHASING, STORAGE & HANDLING GUIDELINES

Temperature

The fresh food compartment should be set in the range of 34° F (1° C) - 38° F (3° C), based on your preference.

The freezer compartment should be set at 0° F (-18° C) or below.

The best cooling occurs when the air is allowed to circulate freely around the food items. Do not over crowd the refrigerator shelves.

Eggs and Dairy

Store eggs on the refrigerator shelf in their original carton.

Refrigerate eggs in the shell until you are ready to use them, do not allow them to warm up to room temperature prior to cooking.

Do not use cracked eggs.

Do not purchase eggs if they are being sold from the aisle, rather than a cooler.

Follow the freshness dates printed on the packaging when using dairy foods.

Refrigerate dairy foods immediately after purchase and after each use.

Close cartons tightly after use to keep out air and other food odors.

Occasionally mold will develop on the surface of hard cheeses (Swiss, Cheddar, Parmesan, etc). Cut off at least an inch around and below the moldy area, keeping the knife out of the mold itself.

If soft cheese, cottage cheese, cheese slices or other cheese foods develop mold, do not save.

Fresh Meats and Poultry

Leave meat and poultry in original store wrap before use (repeated handling can introduce bacteria into the product).

Store raw meats in sealed packages to prevent leaks and possible contamination of other foods and surfaces.

If not freezing fresh meats or poultry, store in the ClimateZone™ drawer set on the Meats setting.

Observe and follow all expiration dates for perishable items that are precooked or ready to eat.

Leftovers

Refrigerate or freeze leftovers immediately. Perishable food should never be allowed to be out at room temperature for greater than 2 hours total.

Store leftovers in clean, shallow, tightly covered containers. The core of dense, large pieces of meat and poultry or deep pots of soup and stew take longer to reach a safe storage temperature. Shallow containers allow food to cool thoroughly more quickly. Cut large cuts of meat into slices of 3 inches (7.62 cm) or less and remove poultry from the bone before refrigerating. Divide soups and stews into smaller containers.

When reusing leftovers, reheat thoroughly. Heat up leftover sauces, soups, and gravy quickly and boil for at least one minute. Heat other leftovers to 165° F (74° C).

Fresh Fruits and Vegetables

Store in a ClimateZone™ storage drawer set on the appropriate setting (Produce or Citrus, see page 8).

Sort fresh produce items before storage and use bruised or soft items first. Discard those showing signs of decay.

Handle fresh produce with care. Even a minor bruise can promote decay and result in premature quality loss.

Wrap odorous foods such as onions and cabbage.

Wait to wash and cut up fresh fruits and vegetables until right before use. Washing can strip away natural protection while cutting initiates enzyme activity. Both factors can have a negative effect upon shelf life.

Wash all fresh fruits and vegetables at the time of use, even those with a peel or rind that will not be eaten. This helps prevent bacteria from the outside being transferred to the edible inside during cutting.

Frozen Food Storage

Do not refreeze items that have completely thawed.

The freezer section will operate more efficiently when it is loaded. If there are not enough food items to fill the freezer at least ⅔ full, use bags of ice or milk cartons filled with water to fill the freezer up to this level.

VEGETABLE SELECTION AND STORAGE CHART

FRESH VEGETABLES	SELECTION	STORAGE
Artichokes	Choose tight, compact heads that feel heavy for their size. Avoid if wilted, moldy or woody.	Store in the ClimateZone™ drawer on the "Produce" setting.
Asparagus	Choose firm, straight stalks with compact tips.	Wrap stem ends in a wet paper towel. Store in the ClimateZone™ drawer on the "Produce" setting.
Beets	Choose small to medium-size beets with skin that is firm and smooth. Tops should be tender and fresh.	Remove tops for storing. Store in the ClimateZone™ drawer on the "Produce" setting.
Bok Choy	Look for clean, crisp stalks with fresh-looking leaves. Avoid product that is wilted or yellowing.	Store in the ClimateZone™ drawer on the "Produce" setting.
Broccoli	Buds should be a rich green, firm and be packed closely together. Leaves should be bright and unwilted.	Store in the ClimateZone™ drawer on the "Produce" setting.
Brussels Sprouts	Choose small round heads with dark green, compact leaves. Avoid those that are puffy, wilted or yellow.	Keep handling to a minimum and use as soon as possible. Store in the ClimateZone™ drawer on the "Produce" setting.
Carrots	Well shaped, smooth, firm carrots. Avoid if pliable or shriveled.	Trim tops closely. Store on the "Produce" setting.
Cauliflower	Choose cauliflower that is creamy white with compact florets. The jacket leaves should be bright green and firmly attached.	Store in the ClimateZone™ drawer on the "Produce" setting.
Corn	Look for bright green, moist husks that when pulled back reveal well filled, even rows of plump kernels. When pricked, the kernels should give a squirt of juice.	Store in the husks in the ClimateZone™ drawer on the "Produce" setting. Use as soon as possible.
Fresh Cut Vegetables and Salad Mixes	Vegetables should be brightly colored. Avoid product that is wilted or slimy. Avoid punctured containers. Follow "use by," "sell by" and expiration dates.	Keep cold in the ClimateZone™ drawer on the "Produce" setting.
Leeks	Choose smaller size leeks with fairly straight (not bulbed) bases.	Store away from foods that absorb odors. Store in the ClimateZone™ drawer on the "Produce" setting.
Lettuce: Boston/Bibb, Iceberg, Romaine	Avoid if leaves appear wilted, discolored, dried or translucent. Avoid heads with dark butts (some minor browning is normal due to natural processes that occur after harvest).	Store in the ClimateZone™ drawer on the "Produce" setting
Mushrooms	Mushrooms should be plump, firm and free of spots.	Store in the original container, do not store in a plastic bag. Store in the ClimateZone™ drawer on the "Produce" setting.
Radicchio	Choose well-shaped, compact heads. Leaves should be dark maroon-red with white veins.	Store in the ClimateZone™ drawer on the "Produce" setting.
Radishes	Look for bright color, with well-formed roots and crisp, white flesh. Tops should be green and fresh.	Remove tops for storing. Store in the ClimateZone™ drawer on the "Produce" setting.
Spinach	Look for deep green coloring. Avoid spinach that is yellowing, wilted or has long stems.	Store in the ClimateZone™ drawer on the "Produce" setting.
Sprouts	Good quality sprouts should be brightly colored with a crisp texture. Avoid if slimy or discolored.	Store in the ClimateZone™ drawer on the "Produce" setting.

FRUIT SELECTION AND STORAGE CHART

FRESH FRUITS	SELECTION	STORAGE
Apples	Look for apples with firm, smooth skin and good color. The presence of scald, which is a dry brown patch on the skin does not affect taste. Handle with care to avoid bruising and skin damage.	Store in the ClimateZone™ drawer on the "Produce" setting.
Apricots	Select plump, fairly firm apricots that are golden or burnt orange in color. Avoid if there are soft or mushy spots or the apricot is pale yellow to greenish-yellow.	Ripen at room temperature. When ripe, store in the ClimateZone™ drawer on the "Produce" setting.
Berries: **Blackberries** **Blueberries** **Raspberries** **Strawberries**	Good quality berries should be dry, clean, plump and well-colored. **Blackberries:** The caps should not be still attached. **Blueberries:** Should have a silvery sheen or "bloom." **Strawberries:** Caps should be fresh, green and intact.	Store in the ClimateZone™ drawer on the "Produce" setting. Store in original, vented carton.
Cantaloupe	Cantaloupe will not ripen after harvest. Select those that are heavy for their size, symmetrical and have a sweet fragrance. The "netting" should be thick with a golden background color, not green. The stem end should give slightly.	When uncut, store on countertop. After cutting, store in the ClimateZone™ drawer on the "Produce" setting.
Cherries	Cherries should be plump with firm, brightly colored skins and green stems.	Store in the ClimateZone™ drawer on the "Produce" setting.
Cranberries	Choose cranberries that are firm and well-colored. Avoid if they are shriveled or soft.	Store in the ClimateZone™ drawer on the "Citrus" setting.
Grapefruit	Choose a grapefruit that is heavy for its size and flat on both ends.	Store in the ClimateZone™ drawer on the "Citrus" setting.
Grapes	Choose grapes that are plump and firmly attached to green pliable stems.	Store in the ClimateZone™ drawer on the "Produce" setting. Do not store in air-tight packaging.
Kiwifruit	Good quality kiwifruit is plump without wrinkles or signs of exterior damage.	Store in the ClimateZone™ drawer on the "Produce" setting.
Lemons and Limes	Choose fruit that is firm and heavy for its size.	Store in the ClimateZone™ drawer on the "Citrus" setting.
Mango	Choose pieces that are free of bruises and blemishes. Mangoes that are ripe will give to gentle pressure.	Store at room temperature.
Nectarines	Look for fruit that is orange-yellow between areas of red, without any green. Skin should be smooth and unblemished.	Ripen at room temperature, then store in the ClimateZone™ drawer on the "Produce" setting.
Oranges	Choose firm fruit that is heavy for its size. Avoid any with soft spots or white mold at the ends. It is normal for ripe oranges to have a slight greening.	Keep oranges separated from foods that absorb odors such as, cheese or butter. Store in the ClimateZone™ drawer on the "Citrus" setting.
Papaya	A papaya should be firm with unblemished skin, regardless of the degree of ripeness.	Store at room temperature. A papaya is ready to eat when the peel is approximately ¾ yellow to yellow-orange in color and it yields to gentle palm pressure.

continued…

FRESH FRUITS	SELECTION	STORAGE
Peaches	Avoid peaches that show signs of green, are very hard or have wrinkled skin. The skin should have a background color that is creamy or yellowish.	Ripen at room temperature, then store in the ClimateZone™ drawer on the "Produce" setting.
Pears	Select pears that are firm and unblemished.	Ripen at room temperature, then store in the ClimateZone™ drawer set on the "Produce" setting.
Pineapple	Pineapple needs to be picked when it is ripe as it will not ripen off of the plant. Look for green leaves and sweet aroma. Avoid those with soft spots or fermented odor.	Store in the ClimateZone™ drawer on the "Citrus" setting.
Plums	Choose the fruit that is full colored, smooth, plump and fairly firm. Avoid plums that have broken skin or are shriveled.	Ripen at room temperature, then store in the ClimateZone™ drawer set on the "Produce" setting.
Tangerines, Tangelos	Look for fruit that is heavy for its size. Avoid if there are soft spots, water-soaked spots or mold.	Store in the ClimateZone™ drawer set on the "Citrus" setting.
Tomatoes	Tomatoes should have bright, shiny skins and firm flesh. Avoid those that are soft, mushy, lacking in color or have blemishes or growth cracks.	Store at room temperature. Refrigerated temperatures degrade a tomato's taste and texture.
Watermelon	Watermelon should be ripe upon purchase, they do not ripen after harvest. Indicators that it was picked after it ripened include a dull rind, dried stem and a yellowish underside where the melon touched the ground. A ripe watermelon will also produce a distinct hollow sound when thumped. If the rind is shiny and is white, pale green or light yellow underneath, it is immature.	When uncut, store on the countertop. Refrigerate in the ClimateZone™ drawer set on "Citrus" after it has been cut.

MAINTENANCE

Condenser

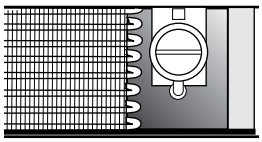
Cleaning of the condenser is recommended every 3-6 months.

TO CLEAN:

- Remove Machine Compartment cover (see page 4).
- Turn the power to the unit off using the Main Power switch.

> ***NOTE:***
>
> Turning the power off on the electronic control panel inside the refrigerator stops cooling only in both compartments. It DOES NOT turn off power to the unit.

- Use the soft brush vacuum attachment to loosen dust and lint on the condenser fins. Vacuum to remove the soil.



- After cleaning, turn the Main Power switch back on.
- Replace the machine compartment cover.

Light Bulb Replacement

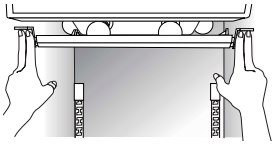
Upper Fresh Food and Freezer Compartments

There are light bulbs at the top of each compartment.

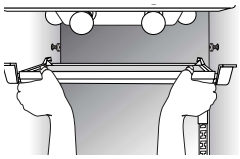
> ***⚠ WARNING:*** ***Always remember to turn off ("O") the power to the refrigerator at the main power switch and to wear gloves when replacing light bulbs.***

TO ACCESS THE UPPER LIGHT BULB AREA IN EITHER COMPARTMENT:

- Push in on the finger-tabs located behind the electronic control panel at the top of the compartment.



- Lower the light shield.
- Replace the burned out bulb(s) with standard A15-40 watt appliance bulb(s). Available from your dealer (part number 31956).
- After replacing the bulb(s), push the light shield up into its original position.



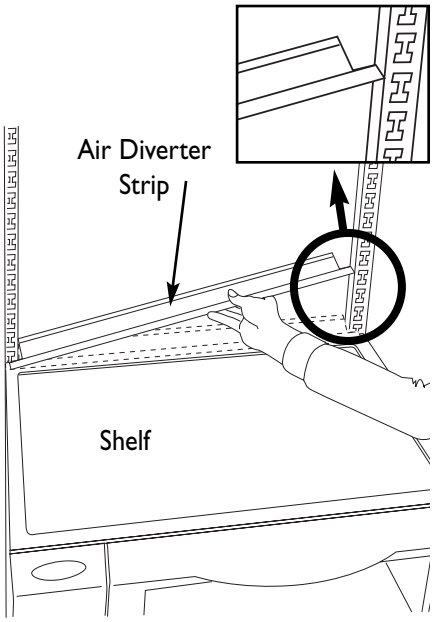
Lower Fresh Food Compartment

There is a T8-40 watt bulb located behind each ClimateZone™ drawer. Replacement bulbs are available from your dealer (MCS part number 61008236).

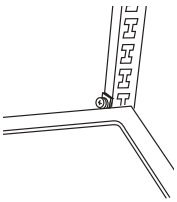
> ***IMPORTANT:***
>
> - To avoid damage to the ClimateZone™ drawers, power **must be** turned off at the Main Power switch (see page 3) before changing the bulb.

TO REPLACE THE BULB BEHIND THE UPPER CLIMATEZONE™ DRAWER:

- Turn the power off to the refrigerator at the Main Power switch in the upper machine compartment (see page 4).
- Unload and remove the upper ClimateZone™ drawer.
- Remove the ClimateZone™ Air Diverter located at the rear of the fresh food compartment.
- Lift up and remove the glass shelf.



- After the shelf is removed, 2 mounting screws are visible behind the drawer. Using a ¼" hex head screw driver, remove these screws.



- Slide the compartment assembly forward.
- Unscrew the bulb and replace with a new T8-40 watt bulb.
- Slide the assembly back into its original position. Align the screw holes, making sure air ducts are in alignment. Replace the two screws. Replace the shelf and the air diverter strip. Reinsert the drawer into the compartment.
- Turn the power to the refrigerator back on.

> ***IMPORTANT:***
>
> - **Do not** remove the foam piece between the ClimateZone™ drawers.

TO REPLACE THE BULB BEHIND THE LOWER CLIMATEZONE™ DRAWER:

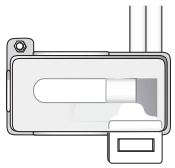
- Turn the power off ("O") to the refrigerator at the Main Power switch in the upper machine compartment (see page 4).
- Unload and remove both ClimateZone™ drawers.
- Remove the air diverter located at the rear of the fresh food compartment, on top of the upper ClimateZone™ compartment.
- Lift up and remove the glass shelf.
- After the shelf is removed, 2 mounting screws are visible behind the upper drawer. Using a ¼" hex head screw driver, remove these screws.
- Slide the upper compartment assembly forward.
- Disconnect the power cords at the plug by pushing in the tabs and gently pulling apart. Pull the assembly completely out and set aside.
- Remove the hex head screws behind the lower compartment.
- Slide the lower compartment assembly forward.
- Unscrew the bulb and replace with a new T8-40 watt bulb.
- Slide the assembly back into its original position and align the screw holes. Replace the two screws.
- Lift the upper assembly back into its original position leaving enough space to reach the power cords. To reconnect the upper assembly power cords, align the properly matching terminals and snap the power cords back together.
- Push the assembly back into its original position and align the screw holes. Replace the two screws and then replace the glass shelf. Replace the air diverter strip.
- Replace the drawers.
- Turn the power back on to the refrigerator.

IMPORTANT:

- **Do not** remove the foam piece between the ClimateZone™ drawers.

Lower Freezer Compartment

- Turn the power off ("O") to the refrigerator at the Main Power switch in the upper machine compartment (see page 4).
- Remove the freezer basket or ice drawer that is located in front of the light (select models).
- Using a phillips screwdriver, remove the mounting screw on the light shield.
- Unscrew the bulb and replace with a T8-40 watt appliance bulb.
- Reinstall the light shield.
- Reinsert the freezer basket or ice drawer.
- Turn the power back on to the refrigerator.



Ice and Water Dispenser Light

TO REPLACE:

- Turn the power off ("O") to the refrigerator at the Main Power switch in the upper machine compartment (see page 4).
- Locate the light bulb in the dispenser area to the left of the actuator pad.
- Remove bulb.
- Replace the bulb, using a 120V, 7 watt bulb.
- Turn the power back on to the refrigerator.

NORMAL OPERATING SOUNDS

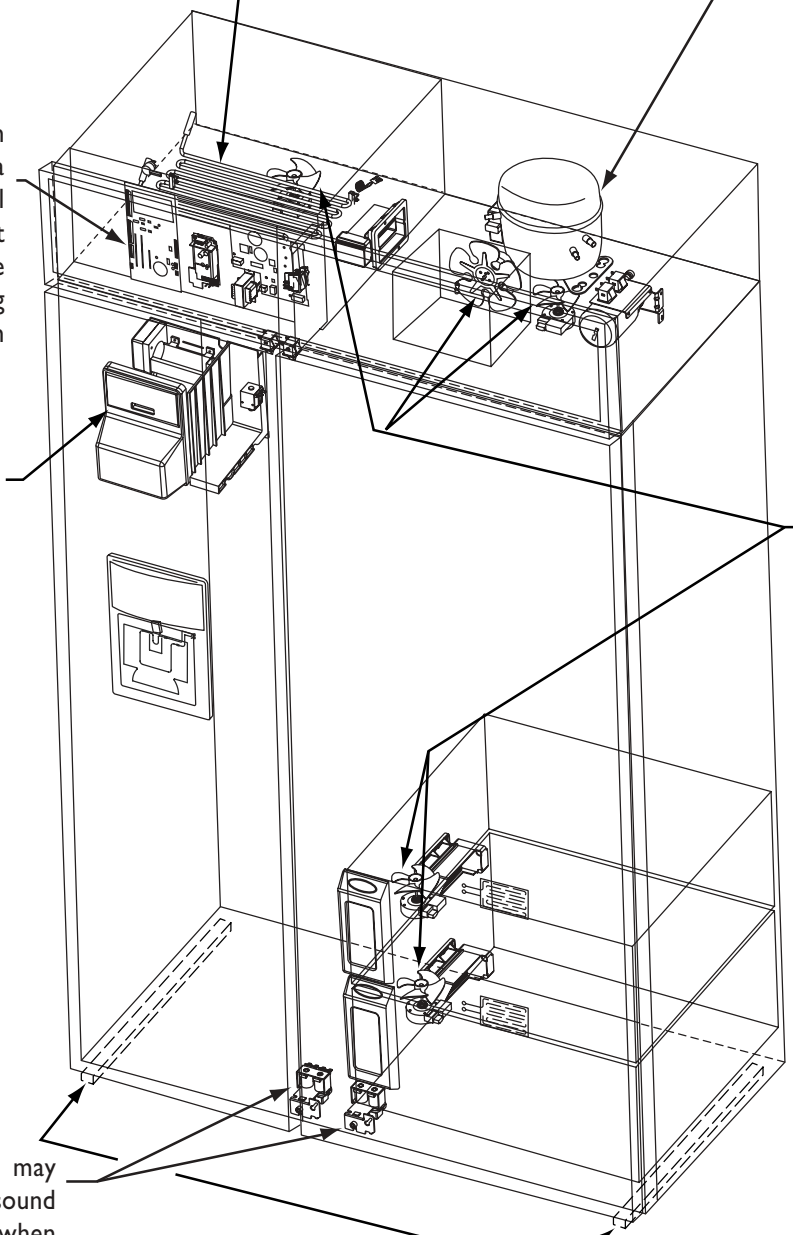
Recent improvements in refrigeration design may introduce sounds in your new refrigerator that were not noticed in earlier models. These improvements were made to create a refrigerator that will preserve food better, run more energy efficiently, and perform quieter overall. Because new refrigerator designs run quieter than past models you may start to detect sounds that were actually present in your older model but were typically masked by the refrigerator's higher sound levels. Many of these sounds are normal. The following are some of the normal sounds your new refrigerator may make:

REFRIGERANT FLOW: The flow of the cooling fluid in your freezer area may cause gurgling or quiet knocking sounds when the refrigerator cycles on or off.

COMPRESSOR: The compressor on this unit has a variable speed motor. This variability allows the system to adjust to different usage needs. This will introduce speed change sounds and some higher pitched humming sounds that are normal for the operation of this type of compressor.

CONTROL SWITCHES: In the electronics control area there are numerous control switches that make a quiet clicking sound when you use your refrigerator or during some of the normal system operations.

ICE MAKER: The cabinet will occasionally generate a rattling sound when ice cubes are ejected into the freezer ice bin. You may also detect the motor that is ejecting that ice. These are normal sounds necessary for ice making.



AIRFLOW SOUNDS: There are a number of fans in the refrigerator that make airflow sounds when in operation. The freezer fan circulates cool air throughout the refrigerator. The refrigerator circulating fan helps keep that compartment's temperature more uniform. The condenser fan on top of your refrigerator is utilized to remove the heat generated by the refrigeration system. Lastly, the Climate Zone compartments circulate air to maintain optimum temperatures.

WATER VALVES: You may detect a slight buzzing sound under the refrigerator when water is requested from the ice dispenser or when the ice maker needs water to make ice.

CABINET LEVELING: An unlevel cabinet may cause rattles and vibration noises.

CARE AND CLEANING

	PARTS	CLEANING PROCEDURE
EXTERIOR	**Condenser**	Clean with a soft bristle brush or vacuum cleaner every 3-6 months. For additional information, see page 19.
	Door Handles	Clean with detergent and water and mild liquid sprays. Do not use abrasive cleaners.
	Doors - Painted	Clean with detergent and water and mild liquid sprays. Dry with a clean, soft cloth. Do not use a soiled cloth. Do not use scouring pads, powdered cleansers, bleach or cleaners containing bleach.
	Stainless Steel	**** DO NOT USE ANY CLEANING PRODUCT CONTAINING CHLORINE BLEACH.*** **** ALWAYS WIPE WITH THE GRAIN WHEN CLEANING.*** **Daily Cleaning/Light Soil –** Wipe with one of the following – Soapy water, white vinegar/water solution, Formula 409* Glass and Surface Cleaner or similar glass cleaner – using a sponge or soft cloth. Rinse and dry. To polish and help prevent fingerprints, follow with Stainless Steel Magic Spray, Part no. 20000008**. **Moderate/Heavy Soil –** Wipe with one of the following – Bon Ami, Smart Cleanser or Soft Scrub* – using a damp sponge or soft cloth. Rinse and dry. Stubborn soils may be removed with a damp Scotch-Brite* pad; **rub evenly with the grain**. Rinse and dry. To restore luster and remove streaks, follow with Stainless Steel Magic Spray. **Discoloration –** using a damp sponge or soft cloth, wipe with Cameo Stainless Steel Cleaner*. **Rinse immediately and dry**. To remove streaks and restore luster, follow with Stainless Steel Magic Spray.
INTERIOR	**Control Panel**	* Wipe with a damp cloth. Dry thoroughly. * Glass cleaners may be used if sprayed on a cloth first. **Do not use excessive amounts of cleaners or spray directly on the panel**. * Do not use other cleaning sprays, abrasive cleaners or large amounts of water on the panel.
	Door Gasket	Detergent and water or baking soda and water. Use 1-2 tablespoons baking soda per quart of water. Wring out excessive water from sponge or cloth when cleaning around controls, lights or electrical parts.
	Interior and Door Liners	Detergent and water or baking soda and water (see Door Gasket above). DO NOT use abrasive cleaners, concentrated detergents, bleaches, cleaning waxes, solvents or polish cleaners to clean the refrigerator interior.
	Glass * Shelves * Bin fronts * Ice drawer front and top (select models)	⚠***WARNING:*** To avoid breakage, allow glass shelves to warm up to room temperature before immersing in warm water. NEVER use hot water to clean glass shelves. Wash with detergent and water, glass cleaner or mild liquid sprays. Rinse and dry.
	Plastic * Drawers * Drawer Cavity * Bins * Dispenser Drip Tray	Clean with detergent and water. Rinse and dry. DO NOT wash in an automatic dishwasher.
	Chrome	Clean with detergent and water. Rinse and dry. DO NOT wash in an automatic dishwasher.
	Automatic Humidity Control mesh/vent area	Use water only. Wipe with a clean, damp cloth.
	ClimateZone™ Technology Storage Drawers	Remove drawers from compartments. Clean with detergent and water, rinse thoroughly and dry.
	ClimateZone™ Technology Compartment Assemblies	Wipe with a clean, damp cloth. DO NOT use abrasive cleaners, concentrated detergents, bleaches, cleaning waxes, solvents or polish cleaners.

* Brand names are the registered trademarks of the respective manufacturer.
** To order directly, call 1-866-459-6298.

BEFORE YOU CALL FOR SERVICE

Fresh food or freezer door difficult to open.

- Due to air flow between the compartments, it may be difficult to open the doors for several seconds after one of them is closed.

Dispenser will not dispense water or ice (select models).

- A water filter, or the filter bypass plug must be in place (see page 13).
- Door is open.

Will not run.

- Power cord not plugged in.
- No power at the electrical outlet.
- Circuit breaker tripped or house fuse blown.
- Main power turned off ("O") (see page 4).
- Touch the ON/OFF pad.

Runs too long/ too frequently.

- Today's energy efficient refrigerators are larger and require more running time to maintain stable temperatures.
- Prolonged door openings.
- Too many door openings.
- Condenser needs cleaning (see page 19).
- The door not sealing (due to a package or a container holding door open).
- Warm room temperature.

Noisy operation.

- Cabinet not level.
- Weak floor.
- See Normal Operating Sounds (page 21).

Odor in cabinet.

- Odor producing foods should be covered or wrapped.
- Interior needs cleaning.

Warm air from machine compartment.

- Normal air flow for condenser circulation.

Cabinet vibrates.

- Cabinet not level.
- Weak floor.
- Improper installation.

Moisture on inside cabinet walls.

- Can occur during hot, humid weather with frequent or prolonged door openings.
- Door not closed properly.

Excessive moisture in or around ClimateZone™ drawers.

- Food not wrapped properly.
- Hot, humid weather.

No temperature readout in the ClimateZone™ drawer display.

- The Normal Cold setting has been chosen.

ClimateZone™ temperature readout is not within target range.

- For best results, refrigerator and freezer controls should be left at the factory settings (see page 5).
- After drawer openings, the addition of a new load or changing settings, the readout may vary. The temperature will recover in a short period of time.

Refrigerator or freezer compartment too warm.

- Refrigerator or freezer temperature set too warm.
- Prolonged door openings.

Refrigerator compartment too cold.

- Refrigerator temperature set too cold.

Freezer not freezing properly.

- Products with high sugar content may not harden completely when frozen (ice cream, concentrated juice, etc.) Do not store in door.
- Adjust freezer temperature to a colder setting.

Ice cubes evaporate.

- Cold air moving over the ice cubes causes shrinkage, especially with limited usage. This is normal.

Automatic ice maker not operating.

- Wire lever arm in up **(OFF)** position.
- Water supply turned off.
- Water pressure too low.
- Freezer too warm.
- Install filter or filter bypass.

Front cabinet surface warm to the touch.

- Special design to limit condensation during periods of high humidity.

Ice dispenser not operating.

- Ice jam in the dispenser.
- Icemaker not operating.
- Lock switch on (see page 12).

Water dispenser not operating.

- Water supply turned off.
- Water pressure too low.
- Lock switch on (see page 12).
- Install filter or filter bypass.

ACCESSORIES

ADDITIONAL ACCESSORIES ARE AVAILABLE FROM YOUR DEALER, ONLINE AT THE ACCESSORY STORE AT WWW.JENNAIR.COM OR BY CALLING 1-866-459-6298:

Width/Models	Placement	Accessory	Model
48" (121.9 cm) Width Models: Refrigerator Compartment	Shelving System	Refrigerator Sealed Glass Shelf	CJS483SSWA
		Refrigerator Elevator Shelf	CJS483ESWA
		Refrigerator A la Carte Storage Drawer	CJS483STWA
	Interior Door System	Full-width Dairy Compartment	CJS484PDSA
		Refrigerator Adjustable Door Bin	CJS484POSA
48" (121.9 cm) Width Models: Freezer Compartment	Shelving System	Freezer Adjustable Storage Shelf	CJS482SSWA
		Freezer Elevator Shelf	CJS482ESWA
		A la Carte Freezer Basket	CJS482BKWA
	Interior Door System	Freezer Adjustable Door Bin	CJS481POSA
		Tilt and Store Freezer Door Basket	CJS481TOSA
42" (106.7 cm) Width Models: Refrigerator Compartment	Shelving System	Refrigerator Sealed Glass Shelf	CJS423SSWA
		Refrigerator Elevator Shelf	CJS423ESWA
		Refrigerator A la Carte Storage Drawer	CJS423STWA
	Interior Door System	Full-width Dairy Compartment	CJS424PDSA
		Refrigerator Adjustable Door Bin	CJS424POSA
42" (106.7 cm) Width Models: Freezer Compartment	Shelving System	Freezer Adjustable Storage Shelf	CJS422SSWA
		Freezer Elevator Shelf	CJS422ESWA
		A la Carte Freezer Basket	CJS422BKWA
	Interior Door System	Freezer Adjustable Door Bin	CJS421POSA
		Tilt and Store Freezer Door Basket	CJS421TOSA
All Models	Filter	Puri-Clean Water Filter Cartridge	UKF7002AXX
42" (121.9 cm) and 48" (106.7 cm) Width Models: Exterior Door	Extended Handles*	Silver Etched Extended Handle	CJSF15EHSA
		White Extended Handle	CJSF15EHWA
		Black Extended Handle	CJSF15EHBA

*Framed models come with full-length handles. Extended handle kits are available to allow additional hand clearance when installed panels are thicker than ¼" (6 mm).

Appendix B

Installation Instructions

Tool Requirements:

Tape measure
Level
Stud finder
Drill with various bits
Socket set
Utility knife
Magnetic extended screwdriver
Phillips screwdriver
Torx Bit
Cardboard, carpet remnant or other protective material for flooring
Steel Hanger Strap

Installation Checklist:

INSTALLER

Doors

- ☐ Handles are solidly attached to doors.
- ☐ Doors seal completely to refrigerator cabinet.
- ☐ Assure correct door handle alignment. Frame models.
- ☐ Assure door seals are not pinched.
- ☐ Do not drive screws / sharp objects into the doors.

Leveling

- ☐ L Brackets are secure to 2x4 wood block.
- ☐ Stabilizing legs are against floor. Cabinet is secure.
- ☐ Toe kickplate is properly attached to refrigerator and aligned with floor.

Icemaker

- ☐ Water supply to refrigerator is turned on and lines flushed.
- ☐ Water leaks are not present at connection between household water supply and refrigerator.
- ☐ Icemaker arm is down for ice production.
- ☐ PuriClean® Ice and Water Filtration System is installed correctly, if applicable.
- ☐ Purge water from the fountain on dispenser models.

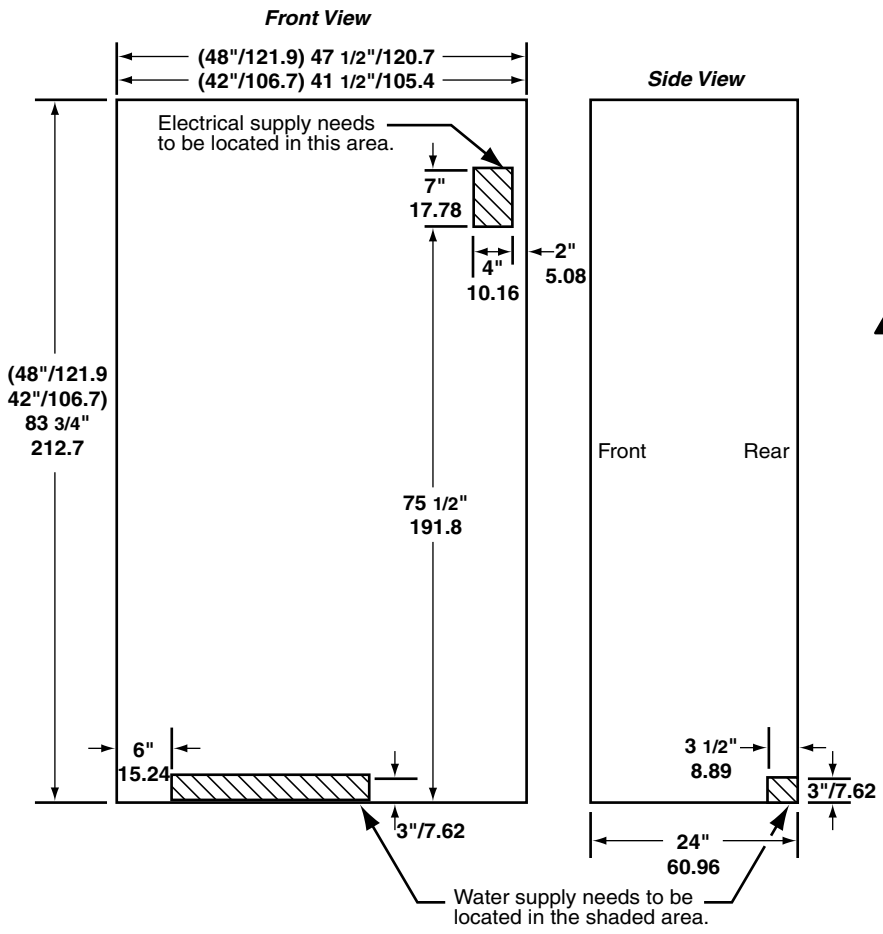


Fig. I

Preparing the Space:

Make sure the opening where the unit will be installed, is properly prepared for "Cut Out" dimension. Check placement for electrical outlet and water line. (Fig. 1)

NOTE:

For the door to open properly, it must be able to open at least 90 degrees. For installation in a corner, a 2" filler strip is required to ensure the 90 degree opening. The floor under the refrigerator is to be level with the surrounding floor. To protect the floor when moving the refrigerator, place cardboard, or preferably a carpet remnant (backing up) on the floor.

⚠WARNING: Electrical Connection:

Refer to User Guide for voltage requirements. There should be a separate, grounded circuit serving this appliance only. Do not use an extension cord. Do not use any device that will alter the electrical performance of this appliance. For the placement of the electrical outlet refer to Fig. 1.
***Do not use a ground fault circuit interupter.**

Plumbing Connection:

Rough in the water line for the location (Fig. 1). Connect a 1/4" copper line to the house supply. Use a shut off valve between the refrigerator and supply. The shut off should be a drilled saddle valve. Do not use a self-tapping valve. The icemaker operates on 30 to 120 PSI. Route the water line within a 1/2" of the wall and no higher than 3" from the floor. Allow at least 3' of excess copper tubing outside the wall or floor for easy connection to the water valve. * Prior to connection assure that the water supply and the copper tubes have been flushed until the water runs clear.

Reverse Osmosis: Remove the water inlet connector from the 'Yellow' valve and attach to the 'Blue' valve. Assure that the water filter bypass plug is in place (See Fig. 3). Disconnect wires from Yellow Valve.

Uncrating the Unit:

Uncrate the unit. Remove the lower shipping bolts and brackets. Slide the unit off of the crate base. Remove and save the lower kick plate, anti-tipping brackets and mounting hardware. (Fig. 2a) Remove the grille, this will help when moving the unit. (Fig. 2b)

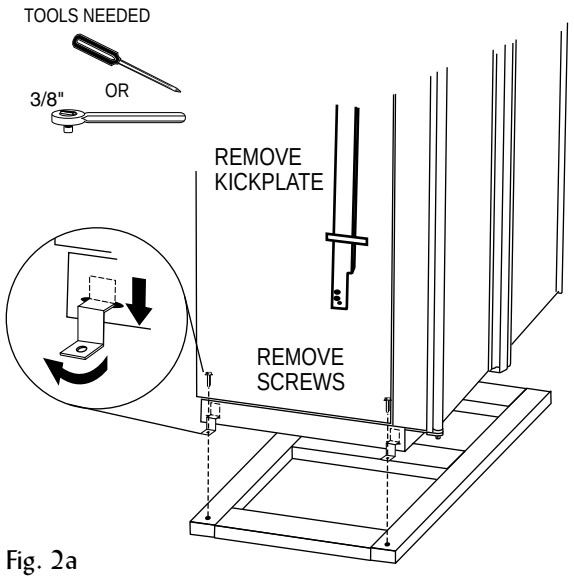


Fig. 2a

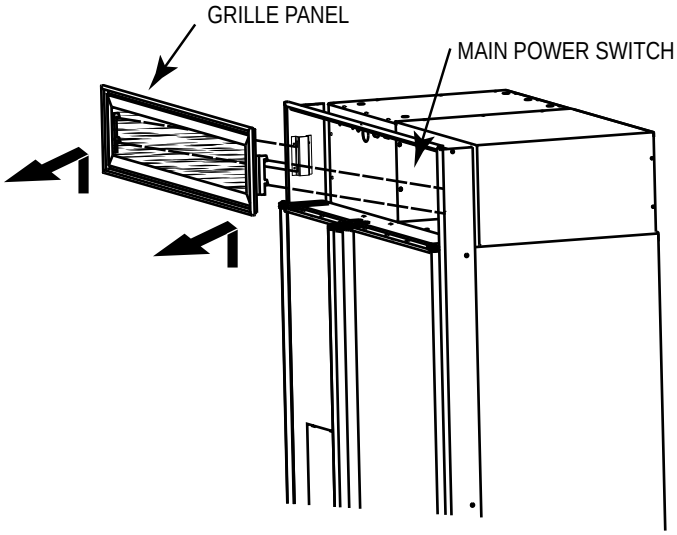


Fig. 2b

Water Line Installation:

Connect the water supply to the water valve. Turn the water on and check for leaks. Plug the unit in. (Fig. 3)

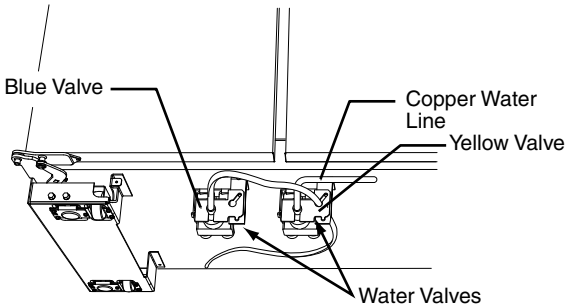


Fig. 3

Leveling:

Slide the unit in place and raise the front and rear levelers until the unit touches the brackets. Use a 3/8" socket for raising and lowering the unit. On each wheel housing there are two 3/8" hex bolts. On the left side, the outside bolt will move the rear leveler and the inside bolt will move the front leveler. On the right side, the outside bolt adjusts the front leveler and the inside bolt will move the rear leveler (Fig. 4). The front levelers must be in contact with the floor. To raise the leveling legs, turn the hex screw in the counter clockwise direction. Place a level on lower ledge of the machine compartment. Level the unit front to back and side to side. This is to prevent tipping of the unit (See Fig. 7). Install the kickplate. Locate the main power switch in the machine compartment and toggle the switch "On". Install the grille panel.

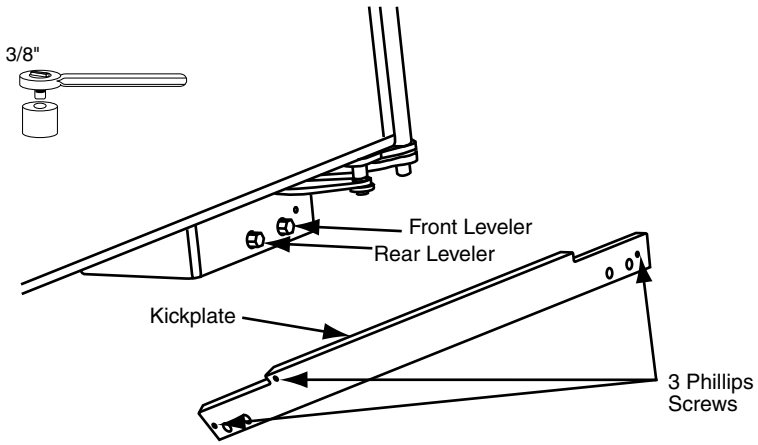


Fig. 4

90° Door Stop

Both doors are designed to open 135°. To restrict one or both doors to a 90° opening use the door stops supplied in this kit. With the doors closed, screw a door stop into the underside of the lower hinge plate (Fig. 5).

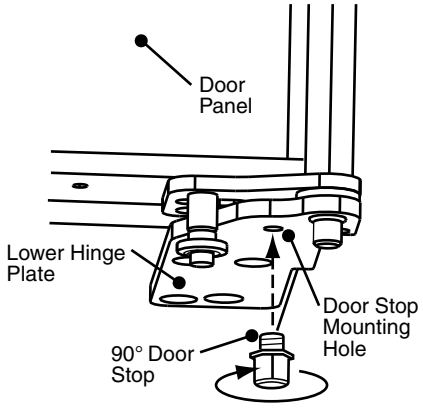


Fig. 5

Blocking the Unit:

If there is a solid soffit above the unit and the clearance is 1" or less you will not need to block the unit. For installations with clearances of more than 1", you must use the anti-tipping 2x4 and brackets provided (Fig. 6).

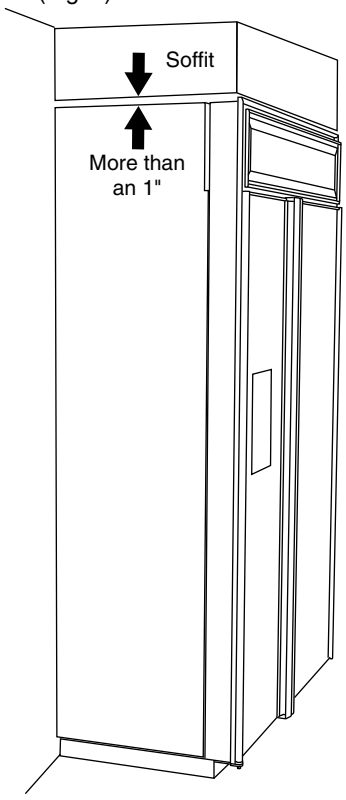


Fig. 6

More than 1" clearance:

Use the anti-tipping kit provided with the shipping crate. Locate and mark the 2 wall studs behind the unit. Mark where the "L" brackets and 2x4 will be located and drill 2 pilot holes 1/8". Locate the proper height to clear the unit. The space between the top of the unit and bottom of the wood block must not exceed 1/4". Secure the "L" brackets, using the provided screws, into the wall studs (①). Make sure the screws will extend 7/8" into the wall studs. Align the pilot holes with the "L" brackets and secure the 2x4 with the screws provided(②,③).

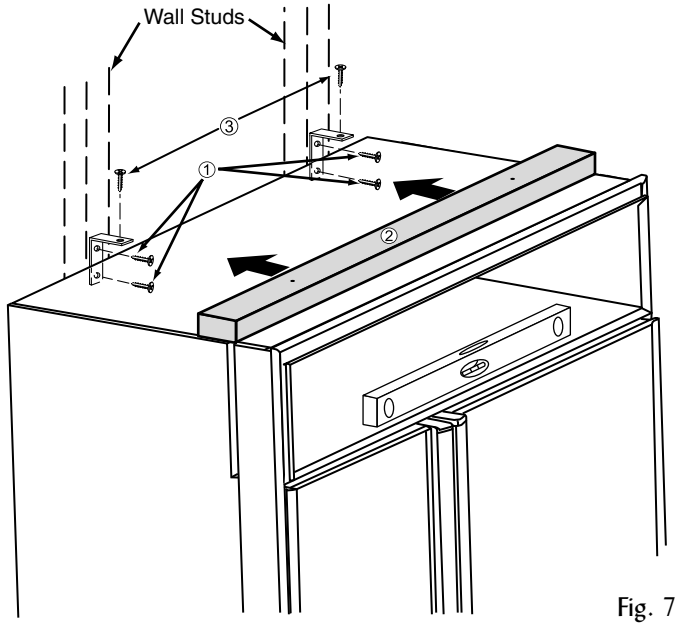


Fig. 7

Installing Backer Panels:

Remove the door handle or trim piece on overlay models. A magnetic backed molding hides the handle or overlay trim screws. Use the adhesive side of the packaging tape on the magnetic backed molding to pull it away from door (Fig. 8a). Remove the screws with a phillips screwdriver (Fig. 8b). Slide the backer panel into position. The backer panel needs to be under the trim. Install the handle. Replace the molding in the channel, and reset the magnetic backed molding. To install the backer panel on the grille remove the screws on the top and bottom of the upper cover (Fig 8c). DO NOT REMOVE the foam. Slide the backer panel into place and replace screws (Fig 8d). If the thickness of the backer panel is less than a 1/4", back it up with a sheet of shim material to obtain a 1/4" thickness. Cardboard is recommended for Stainless Steel application. For panel size refer to Fig. 10.

⚠CAUTION: Do not drive screws or sharp objects into the doors. Do not pinch door seal when reinstalling handle.

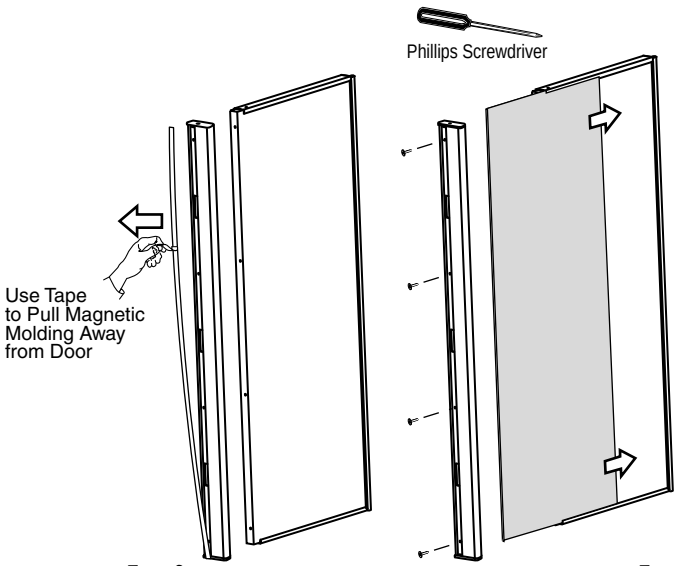


Fig. 8a

Fig. 8b

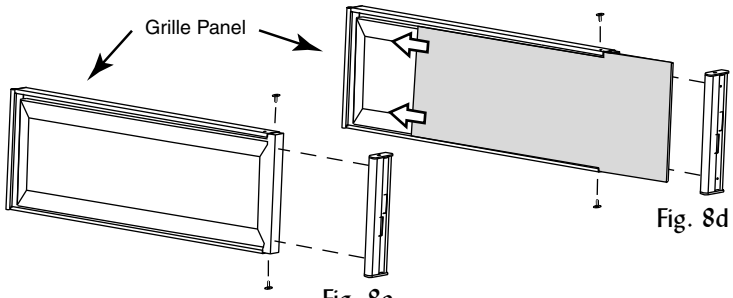
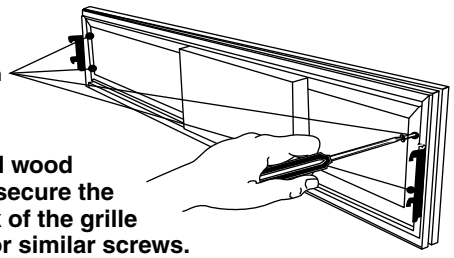


Fig. 8d

Fig. 8c



⚠CAUTION:

When attaching a raised wood panel of 1/2" or thicker secure the raised panel to the back of the grille cover frame. Use 4 #8 or similar screws. See illustration for approximate locations.

Panel Installation for Dispenser Models:

See section "Installing Backer Panels" for handle / trim piece removal. With handle / trim piece removed slide upper and lower panels in postion. To replace dispenser panels, slide out Spill Tray grille and remove 2 Torx screws (see inset). Insert replacement panel. Reinsert Torx screw and reinstall handle / trim piece.
To replace second dispenser panel, open freezer door until 4 phillips screws that hold the door trim in place are accessible. Remove screws and slide out door trim. Close door and insert replacement panel. Reinsert Torx screw and reinstall door trim.

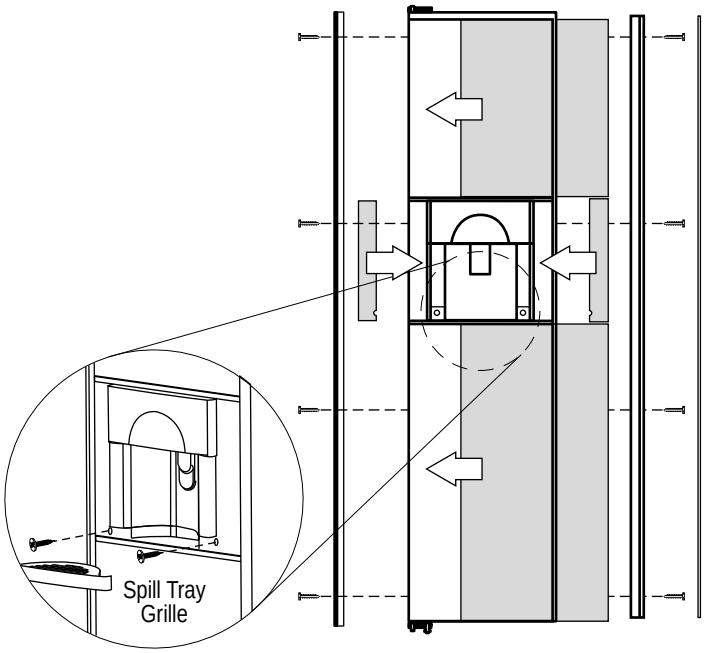


Fig. 9

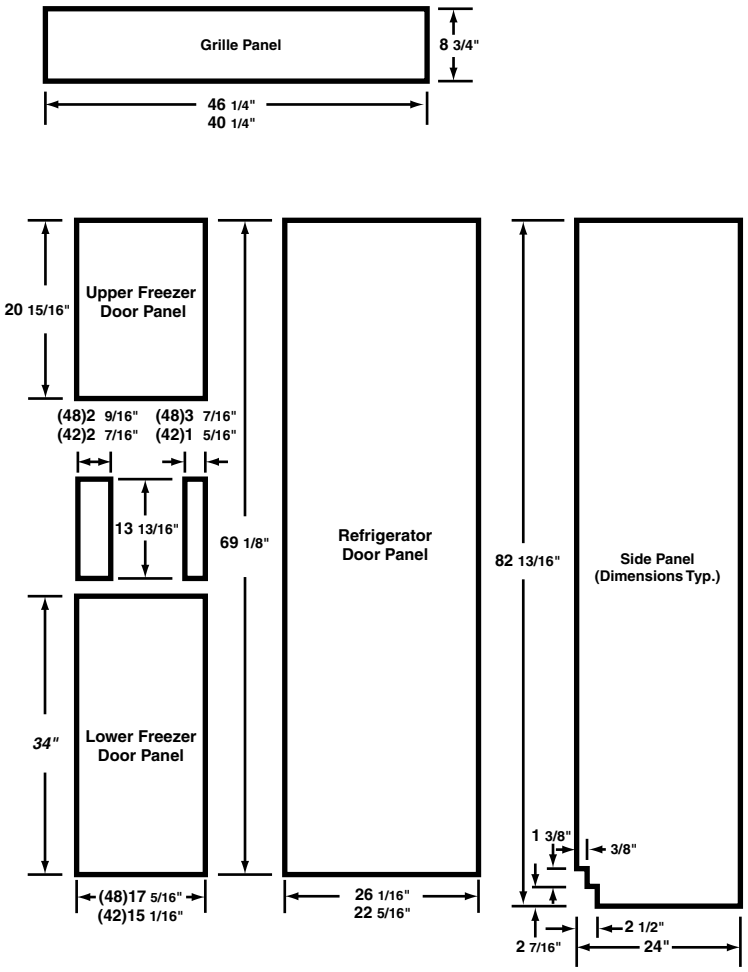
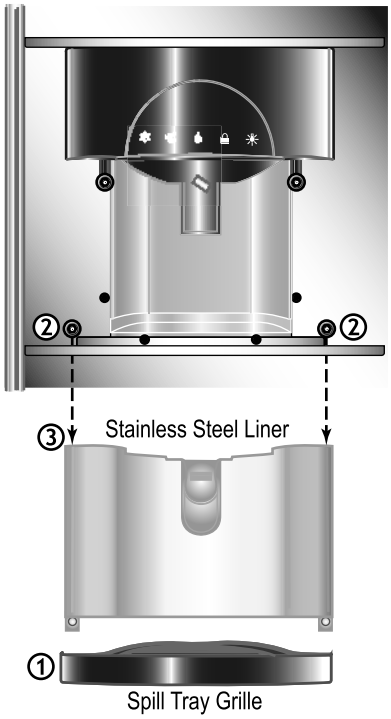
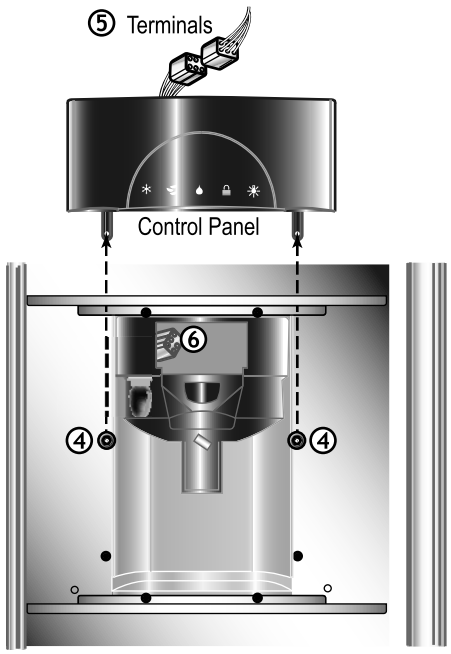


Fig. 10

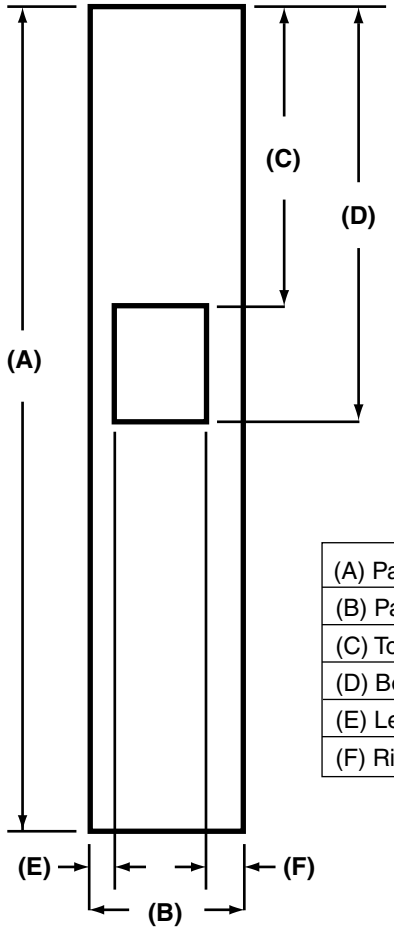
One-piece Overlay/Frame Panel Installation:

See Owner Manual for switching "OFF / O" the unit. Reference Fig. 9 for door panel removal and installation. With panels removed reattach hinge trim. Lift slide out Spill Tray grille and remove 2 Torx screws ①, ②. Remove stainless steel liner ③. Remove 2 Torx screws from the control panel ④. Slide control panel down to remove. Disconnect terminals on back of control panel ⑤. Tuck dispenser terminal inside to avoid interfering with one-piece panel ⑥. Open door and slide one-piece panel into position. Reconnect control panel to dispenser terminal. Reattach control panel with 2 Torx screws. Reposition stainless steel liner into track and secure with 2 Torx screws. Reinstall the Spill Tray grille and door trim. Turn unit on.



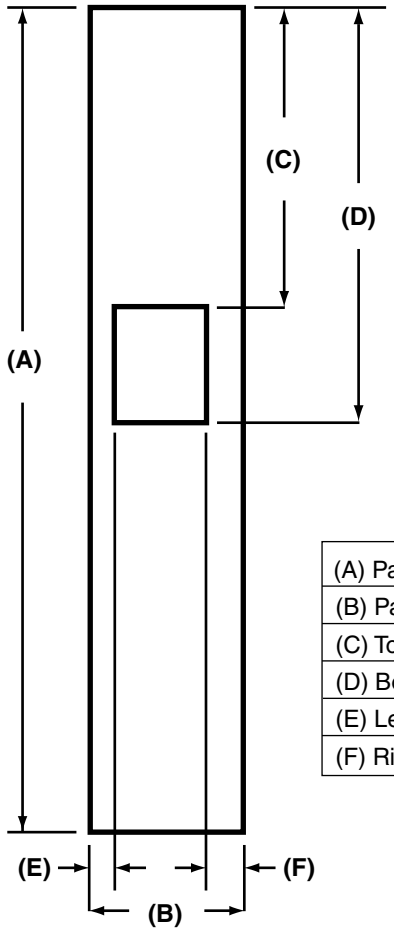


Dispenser One-Piece Freezer Framed Panel



	42" Wide Cabinet		48" Wide Cabinet	
	Inches	Cm	Inches	Cm
(A) Panel Height	69 1/8	175.6	69 1/8	175.6
(B) Panel Width	15 1/16	38.26	17 5/16	43.97
(C) Top of dispenser cutout to top of panel	20 5/8	52.39	20 5/8	52.39
(D) Bottom of dispenser cutout to top of panel	35 7/16	90.01	35 7/16	90.01
(E) Left of dispenser cutout width	2 7/16	6.19	2 9/16	6.51
(F) Right of dispenser cutout width	1 5/16	3.33	3 3/8	8.57

Dispenser One-Piece Freezer Overlay Panel



	42" Wide Cabinet		48" Wide Cabinet	
	Inches	Cm	Inches	Cm
(A) Panel Height	69 1/8	175.6	69 1/8	175.6
(B) Panel Width	16 7/16	41.75	18 11/16	47.47
(C) Top of dispenser cutout to top of panel	21 3/16	53.82	21 3/16	53.82
(D) Bottom of dispenser cutout to top of panel	34 13/16	88.42	34 13/16	88.42
(E) Left of dispenser cutout width	2 1/16	5.24	2 3/16	5.56
(F) Right of dispenser cutout width	2 1/4	5.72	4 3/8	11.11

Installing Side Panels:

Optional side panels need to be 1/4-inch thick. Slide panel into position and secure with screws indicated by the shaded area (Fig. 11a). A 3/16-inch batten is required between the cabinet and side panel (Fig. 11b). A 1/2-inch thick by 10 1/4-inch tall batten is required if the side panel extends up into the machine compartment area on the refrigerator side (Fig. 11c).

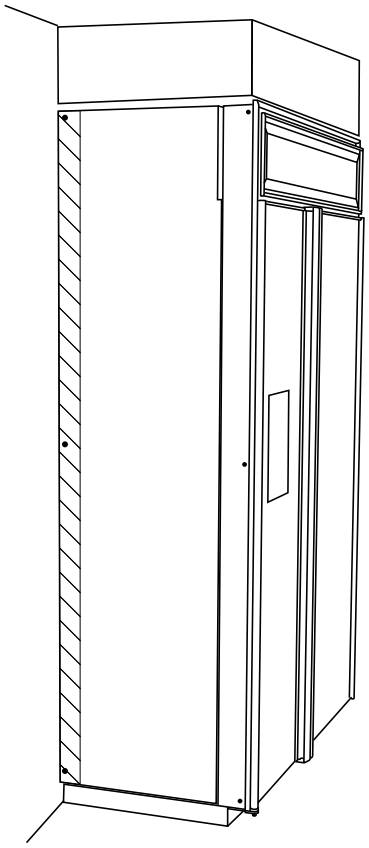


Fig. 11a

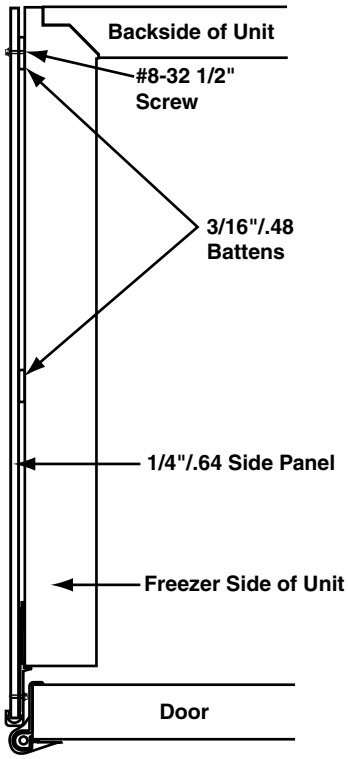


Fig. 11b

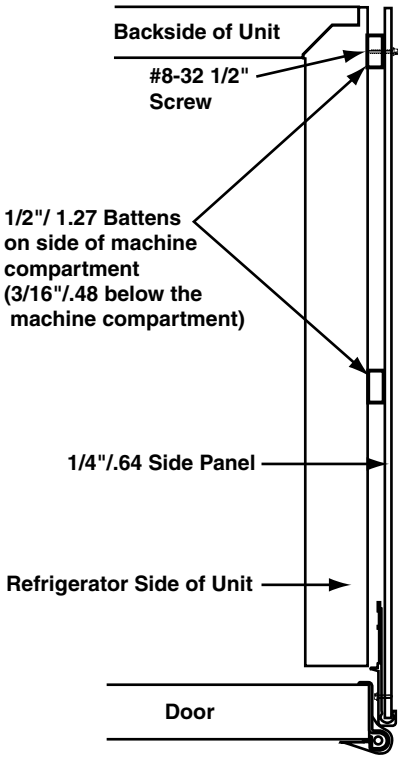
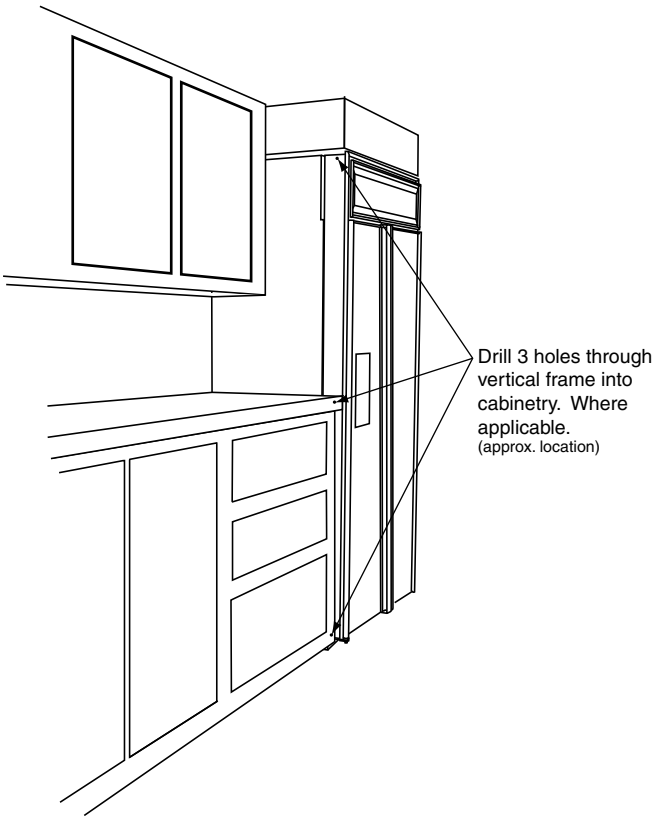


Fig. 11c

Anchor the Unit (Optional):

If you are attaching the unit to cabinetry, drill three 3/16" holes through both outer trims. Drill 1/8" pilot holes into the cabinetry. Install screws.

Additionally: If the depth/height of opening is excessive use steel hanger strap. Double over strap at the achor points to secure cabinet.

Adjust door hinges:

Check to make sure the doors are properly adjusted. If not, adjust the top hinges. The hinges are slotted for side to side movement. Remove and discard the small phillips screw on the door hinge, which is located on the hinge. Adjust the top hinges by loosing the 3 large Torx screws. Tighten the screws after the doors are adjusted. Extruded door handles can be adjusted for alignment by loosening the screws under the magnetic backed molding (See fig. 8a).